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**County specific computer generated reports.*

ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Franklin County, Nebraska: Published

Map symbol	Soil name	Acres	Percent
Br	Broken Alluvial Land-----	9,700	2.6
Bu	Butler Silt Loam, 0 To 1 Percent Slopes-----	1,500	0.4
CaF	Campus Complex, 9 To 30 Percent Slopes-----	7,300	2.0
CnF	Canyon-Campus Loams, 9 To 30 Percent Slopes-----	1,850	0.5
CoD2	Coly-Uly Silt Loams, 3 To 9 Percent Slopes, Eroded-----	14,300	3.9
CoF	Coly-Uly Silt Loams, 9 To 30 Percent Slopes-----	21,242	5.8
De	Detroit Silt Loam, 0 To 1 Percent Slopes-----	5,600	1.5
Fm	Fillmore Silt Loam, 0 To 1 Percent Slopes-----	1,550	0.4
Gb	Gibbon Silt Loam, 0 To 2 Percent Slopes-----	2,000	0.5
GcF	Gravelly Land Complex, 3 To 30 Percent Slopes-----	2,650	0.7
GP	Gravel Pit-----	432	0.1
Ha	Hall Silt Loam, 0 To 1 Percent Slopes-----	9,000	2.4
Hb	Hall Silt Loam, Terrace, 0 To 1 Percent Slopes-----	460	0.1
Hc	Hastings Silt Loam, 0 To 1 Percent Slopes-----	1,000	0.3
HdC	Herhsh-Valentine Complex, 1 To 6 Percent Slopes-----	1,150	0.3
HdD	Herhsh-Valentine Complex, 6 To 11 Percent Slopes-----	3,250	0.9
Hf	Hobbs Silt Loam, Occasionally Flooded, 0 To 2 Percent Slopes-----	5,300	1.4
Hh	Holdrege Silt Loam, 0 To 1 Percent Slopes-----	48,467	13.1
HhB	Holdrege Silt Loam, 1 To 3 Percent Slopes-----	49,917	13.5
HhC	Holdrege Silt Loam, 3 To 6 Percent Slopes-----	4,050	1.1
HhD	Holdrege Silt Loam, 6 To 9 Percent Slopes-----	4,150	1.1
HnD2	Holdrege And Uly Soils, 3 To 9 Percent Slopes, Eroded-----	22,193	6.0
Hr	Hord Silt Loam, Terrace, 0 To 1 Percent Slopes-----	4,100	1.1
HrB	Hord Silt Loam, Terrace, 1 To 3 Percent Slopes-----	4,450	1.2
Ig	Inavale Loamy Sand, 0 To 3 Percent Slopes-----	2,400	0.7
In	Inavale Fine Sandy Loam, 0 To 3 Percent Slopes-----	780	0.2
INT	Aquolls-----	631	0.2
Kn	Kenesaw Silt Loam, 0 To 1 Percent Slopes-----	2,850	0.8
KnB	Kenesaw Silt Loam, 1 To 3 Percent Slopes-----	7,500	2.0
KnC	Kenesaw Silt Loam, 3 To 6 Percent Slopes-----	2,550	0.7
KsF	Kipson Complex, 9 To 30 Percent Slopes-----	4,450	1.2
M-W	Miscellaneous Water, Sewage Lagoon-----	47	*
Ma	Marsh-----	226	*
Mb	Mccook Fine Sandy Loam, 0 To 2 Percent Slopes-----	800	0.2
Mc	Mccook Silt Loam, 0 To 2 Percent Slopes-----	2,350	0.6
Mn	Munjor Loamy Fine Sand, 0 To 2 Percent Slopes-----	1,000	0.3
Mu	Munjor Fine Sandy Loam, 0 To 2 Percent Slopes-----	4,900	1.3
NhF	Nuckolls-Hobbs Complex, 9 To 30 Percent Slopes-----	55,219	15.0
NmC	Nuckolls And Holdrege Silt Loams, 3 To 6 Percent Slopes-----	870	0.2
NmD	Nuckolls And Holdrege Silt Loams, 6 To 9 Percent Slopes-----	7,800	2.1
NoD2	Nuckolls And Holdrege Soils, 3 To 9 Percent Slopes, Eroded-----	6,300	1.7
NpD	Nuckolls And Meadin Soils, 9 To 30 Percent Slopes-----	6,800	1.8
Ra	Riverwash-----	770	0.2
RbG	Rough Broken Land, Loess, 20 To 60 Percent Slopes-----	4,050	1.1
RcF	Rough Stony Land, 15 To 30 Percent Slopes-----	820	0.2
Rx	Roxbury Silt Loam, 0 To 2 Percent Slopes-----	2,400	0.7
Sa	Sandy Alluvial Land-----	4,800	1.3
Sc	Scott Silt Loam, 0 To 1 Percent Slopes-----	650	0.2
UaC	Uly Silt Loam, 3 To 6 Percent Slopes-----	5,300	1.4
UaD	Uly Silt Loam, 6 To 11 Percent Slopes-----	6,900	1.9
VaF	Valentine Loamy Sand, Hilly-----	1,900	0.5
VhD	Valentine-Hersh Complex, 11 To 30 Percent Slopes-----	3,050	0.8
W	Water-----	2,210	0.6
Wa	Wann Fine Sandy Loam, 0 To 2 Percent Slopes-----	1,800	0.5
Wb	Wann Silt Loam, 0 To 2 Percent Slopes-----	970	0.3
	Total-----	368,704	100.0

* Less than 0.1 percent.

Nontechnical Soil Descriptions
Franklin County, Nebraska

Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units, shown in the NonTechnical Descriptions report. These descriptions are written in terminology that Non-technical users of soil survey information can understand. Nontechnical soil descriptions are a powerful tool for creating reports. These high quality, easy to read reports can be generated by conservation planners and other NRCS employees for distribution to land users. Soil map unit descriptions and National Soil Information System records are the basis for these descriptions.

Br Broken Alluvial Land

Hobbs soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on drainageway on upland. The runoff class is low. The parent material consists of stratified silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Overflow - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6w.

Bu Butler Silt Loam, 0 To 1 Percent Slopes

Butler soil makes up 100 percent of the map unit. This map unit is in the Central Loess Plains Major Land Resource Area. This soil occurs on a nearly level swale on upland. The runoff class is negligible. The parent material consists of loess. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a very high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Clayey - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

CaF Campus Complex, 9 To 30 Percent Slopes

Campus soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy residuum. The soil is 20 to 40 inches deep to bedrock (lithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 35 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

CnF Canyon-Campus Loams, 9 To 30 Percent Slopes

Canyon soil makes up 75 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6s.

Campus soil makes up 25 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is very high. The parent material consists of calcareous loamy residuum. The soil is 20 to 40 inches deep to bedrock (lithic). This soil is well drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 35 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

CoD2 Coly-Uly Silt Loams, 3 To 9 Percent Slopes, Eroded

Coly soil makes up 60 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Uly soil makes up 40 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Nontechnical Soil Descriptions--Continued
Franklin County, Nebraska

CoF Coly-Uly Silt Loams, 9 To 30 Percent Slopes

Coly soil makes up 60 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Limy Upland - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Uly soil makes up 40 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

De Detroit Silt Loam, 0 To 1 Percent Slopes

Detroit soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level flat on upland. The runoff class is medium. The parent material consists of silty alluvium over loess. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Fm Fillmore Silt Loam, 0 To 1 Percent Slopes

Fillmore soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level playa, upland. The runoff class is negligible. The parent material consists of loess. This soil is somewhat poorly drained. The slowest permeability is very slow. It has a high available water capacity and a very high shrink swell potential. This soil is not flooded and is occasional ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Clayey Overflow - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4w. It is in the nonirrigated land capability classification 3w.

Gb Gibbon Silt Loam, 0 To 2 Percent Slopes

Gibbon soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping stream terrace on river valley. The runoff class is low. The parent material consists of stratified calcareous silty alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 27 inches. The soil contains a maximum amount of 15 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Ha Hall Silt Loam, 0 To 1 Percent Slopes

Hall soil makes up 100 percent of the map unit. This map unit is in the Central Loess Plains Major Land Resource Area. This soil occurs on a nearly level interfluvial on upland. The runoff class is negligible. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Hb Hall Silt Loam, Terrace, 0 To 1 Percent Slopes

Hall soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level stream terrace on river valley. The runoff class is negligible. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Hc Hastings Silt Loam, 0 To 1 Percent Slopes

Hastings soil makes up 100 percent of the map unit. This map unit is in the Central Loess Plains Major Land Resource Area. This soil occurs on a nearly level hillslope on upland. The runoff class is low. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Nontechnical Soil Descriptions--Continued
Franklin County, Nebraska

HdC Herish-Valentine Complex, 1 To 6 Percent Slopes

Herish soil makes up 60 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hillslope on upland. The runoff class is very low. The parent material consists of coarse-loamy eolian deposits. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 3 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Valentine soil makes up 40 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hummock on sand sheet on upland. The runoff class is negligible. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sands - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 6e.

HdD Herish-Valentine Complex, 6 To 11 Percent Slopes

Herish soil makes up 60 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is low. The parent material consists of coarse-loamy eolian deposits. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 3 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Valentine soil makes up 40 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hummock on sand sheet on upland. The runoff class is very low. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sands - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 6e.

Hf Hobbs Silt Loam, Occasionally Flooded, 0 To 2 Percent Slopes

Hobbs soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on drainageway on upland. The runoff class is negligible. The parent material consists of stratified silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Overflow - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Hh Holdrege Silt Loam, 0 To 1 Percent Slopes

Holdrege soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level broad interstream divide on upland. The runoff class is low. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 2c.

HhB Holdrege Silt Loam, 1 To 3 Percent Slopes

Holdrege soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

HhC Holdrege Silt Loam, 3 To 6 Percent Slopes

Holdrege soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued
Franklin County, Nebraska

HhD Holdrege Silt Loam, 6 To 9 Percent Slopes

Holdrege soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

HnD2 Holdrege And Uly Soils, 3 To 9 Percent Slopes, Eroded

Holdrege soil makes up 65 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Uly soil makes up 35 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Hr Hord Silt Loam, Terrace, 0 To 1 Percent Slopes

Hord soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level stream terrace on river valley. The runoff class is negligible. The parent material consists of alluvium and/or loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

HrB Hord Silt Loam, Terrace, 1 To 3 Percent Slopes

Hord soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a gently sloping stream terrace on river valley. The runoff class is low. The parent material consists of alluvium and/or loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

Ig Inavale Loamy Sand, 0 To 3 Percent Slopes

Inavale soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of sandy alluvium. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sandy Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

In Inavale Fine Sandy Loam, 0 To 3 Percent Slopes

Inavale soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is very low. The parent material consists of sandy alluvium. This soil is excessively drained. The slowest permeability is moderately rapid. It has a low available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sandy Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

INT Aquolls

Aquolls soil makes up 100 percent of the map unit. This map unit is in the Central Loess Plains Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level depression. The runoff class is negligible. The parent material consists of alluvium. This soil is very poorly drained. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is occasional ponded. The top of the seasonal high water table is at 0 inches. It is in the nonirrigated land capability classification 5w.

Nontechnical Soil Descriptions--Continued
Franklin County, Nebraska

Kn Kenesaw Silt Loam, 0 To 1 Percent Slopes

Kenesaw soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level interfluvium on upland. The runoff class is negligible. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

KnB Kenesaw Silt Loam, 1 To 3 Percent Slopes

Kenesaw soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

KnC Kenesaw Silt Loam, 3 To 6 Percent Slopes

Kenesaw soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

KsF Kipson Complex, 9 To 30 Percent Slopes

Kipson soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of silty and clayey residuum weathered from calcareous shale. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is somewhat excessively drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 60 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Ma Marsh

Fluvaquents soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is very poorly drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It is in the nonirrigated land capability classification 8w.

Mb Mccook Fine Sandy Loam, 0 To 2 Percent Slopes

Mccook soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of stratified calcareous alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

Mc Mccook Silt Loam, 0 To 2 Percent Slopes

Mccook soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of stratified calcareous alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 1.

Mn Munjor Loamy Fine Sand, 0 To 2 Percent Slopes

Munjor soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued
Franklin County, Nebraska

Mu Munjor Fine Sandy Loam, 0 To 2 Percent Slopes

Munjor soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Sandy Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

NhF Nuckolls-Hobbs Complex, 9 To 30 Percent Slopes

Nuckolls soil makes up 70 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Hobbs soil makes up 30 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on drainageway on upland. The runoff class is negligible. The parent material consists of stratified silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty Overflow - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

NmC Nuckolls And Holdrege Silt Loams, 3 To 6 Percent Slopes

Nuckolls soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Holdrege soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

NmD Nuckolls And Holdrege Silt Loams, 6 To 9 Percent Slopes

Nuckolls soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

Holdrege soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

NoD2 Nuckolls And Holdrege Soils, 3 To 9 Percent Slopes, Eroded

Nuckolls soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

NONTECHNICAL SOIL DESCRIPTIONS--Continued
Franklin County, Nebraska

Holdrege soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

NpD Nuckolls And Meadin Soils, 9 To 30 Percent Slopes

Nuckolls soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Meadin soil makes up 50 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is medium. The parent material consists of loamy alluvium over sandy and gravelly alluvium. This soil is excessively drained. The slowest permeability is moderately rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Shallow To Gravel - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6s.

Ra Riverwash

Fluvaquents soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is very poorly drained. The slowest permeability is rapid. It has a very low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It is in the nonirrigated land capability classification 8w.

RbG Rough Broken Land, Loess, 20 To 60 Percent Slopes

Coly soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a steep to very steep break on upland. The runoff class is high. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Thin Loess - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 7e.

RcF Rough Stony Land, 15 To 30 Percent Slopes

Canyon soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately steep to steep hillslope on upland. The runoff class is high. The parent material consists of calcareous loamy residuum weathered from limestone and sandstone. The soil is 6 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Shallow Limy - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6s.

Rx Roxbury Silt Loam, 0 To 2 Percent Slopes

Roxbury soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of calcareous silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Silty Lowland - Veg. Zone 3 range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 1.

Sa Sandy Alluvial Land

Fluvaquents soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is very poorly drained. The slowest permeability is rapid. It has a very low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 0 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It is in the nonirrigated land capability classification 8w.

Nontechnical Soil Descriptions--Continued
Franklin County, Nebraska

Sc Scott Silt Loam, 0 To 1 Percent Slopes

Scott soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level playa on upland. The runoff class is negligible. The parent material consists of loess. This soil is poorly drained. The slowest permeability is very slow. It has a high available water capacity and a very high shrink swell potential. This soil is not flooded and is frequent ponded. The top of the seasonal high water table is at 6 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the No Site - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 4w.

UaC Uly Silt Loam, 3 To 6 Percent Slopes

Uly soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is low. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

UaD Uly Silt Loam, 6 To 11 Percent Slopes

Uly soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of fine-silty calcareous loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

VaF Valentine Loamy Sand, Hilly

Valentine soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a moderately steep to very steep hillslope on sand sheet on upland. The runoff class is low. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Choppy Sands - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 7e.

VhD Valentine-Hersh Complex, 11 To 30 Percent Slopes

Valentine soil makes up 65 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hummock on sand sheet on upland. The runoff class is low. The parent material consists of eolian sands. This soil is excessively drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Sands - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Hersh soil makes up 35 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is medium. The parent material consists of coarse-loamy eolian deposits. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 3 percent calcium carbonate. This soil is in the Sandy - Veg. Zone 3 range site. It is in the nonirrigated land capability classification 6e.

Wa Wann Fine Sandy Loam, 0 To 2 Percent Slopes

Wann soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping stream terrace on river valley. The runoff class is negligible. The parent material consists of calcareous loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Wb Wann Silt Loam, 0 To 2 Percent Slopes

Wann soil makes up 100 percent of the map unit. This map unit is in the Rolling Plains and Breaks Major Land Resource Area. This soil occurs on a nearly level to gently sloping stream terrace on river valley. The runoff class is negligible. The parent material consists of calcareous loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is moderate. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 30 inches. The soil contains a maximum amount of 5 percent calcium carbonate. It has a horizon that is slightly sodic. This soil is in the Subirrigated - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Br—Broken Alluvial Land

Map Unit Composition

Hobbs: 100 percent

Component Descriptions

Hobbs

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on drainageway on upland

Parent material: Stratified silty alluvium

Slope: 0 to 2 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty Overflow - Veg. Zone 3

Land capability (nonirrigated): 6w

Typical Profile:

H1—0 to 7 inches; silt loam

H2—7 to 34 inches; stratified silt loam

H3—34 to 80 inches; silt loam

Minor Components

Wt At 0-1 Foot

Bu—Butler silt loam, 0 to 1 percent slopes

Map Unit Composition

Butler: 100 percent

Component Descriptions

Butler

MLRA: 75 - Central Loess Plains

Landform: Swale on upland

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 10.6 inches)

Shrink-swell potential: Very high (About 10.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 6 to 18 inches

Runoff class: Negligible

Ecological site: Clayey - Veg. Zone 3

Land capability (irrigated): 2w

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 14 inches; silt loam

H2—14 to 31 inches; clay

H3—31 to 41 inches; silty clay loam

H4—41 to 60 inches; silt loam

Minor Components**Fillmore**

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Ecological site: Clayey Overflow - Veg. Zone 3

CaF—Campus complex, 9 to 30 percent slopes

Map Unit Composition

Campus: 100 percent

Component Descriptions

Campus

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Calcareous loamy residuum

Slope: 9 to 15 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very high

Ecological site: Limy Upland - Veg. Zone 3

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 16 inches; loam
 H2—16 to 25 inches; loam
 R—25 to 60 inches; unweathered bedrock

CnF—Canyon-Campus loams, 9 to 30 percent slopes

Map Unit Composition

Canyon: 75 percent
 Campus: 25 percent

Component Descriptions

Canyon

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Calcareous loamy residuum weathered from limestone and sandstone

Slope: 9 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very low (About 2.7 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: High

Ecological site: Shallow Limy - Veg. Zone 3

Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 9 inches; loam
 H2—9 to 14 inches; gravelly loam
 Cr—14 to 60 inches; weathered bedrock

Campus

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Calcareous loamy residuum

Slope: 9 to 15 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very high

Ecological site: Limy Upland - Veg. Zone 3

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 16 inches; loam
 H2—16 to 25 inches; loam
 R—25 to 60 inches; unweathered bedrock

CoD2—Coly-Uly silt loams, 3 to 9 percent slopes, Eroded

Map Unit Composition

Coly: 60 percent

Uly: 40 percent

Component Descriptions

Coly

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Fine-silty calcareous loess

Slope: 6 to 9 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Limy Upland - Veg. Zone 3

Land capability (irrigated): 4e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 4 inches; silt loam
 H2—4 to 80 inches; silt loam

Uly

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Fine-silty calcareous loess

Slope: 6 to 9 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 26 inches; silt loam
 H3—26 to 60 inches; silt loam

Available water capacity: High (About 11.3 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 9 inches; silt loam
 H2—9 to 26 inches; silt loam
 H3—26 to 60 inches; silt loam

CoF—Coly-Uly silt loams, 9 to 30 percent slopes

Map Unit Composition

Coly: 60 percent
 Uly: 40 percent

Component Descriptions

Coly

MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Fine-silty calcareous loess
Slope: 9 to 30 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Limy Upland - Veg. Zone 3
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 5 inches; silt loam
 H2—5 to 60 inches; silt loam

Uly

MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Fine-silty calcareous loess
Slope: 9 to 30 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)

De—Detroit silt loam, 0 to 1 percent slopes

Map Unit Composition

Detroit: 100 percent

Component Descriptions

Detroit

MLRA: 73 - Rolling Plains and Breaks
Landform: Flat on upland
Parent material: Silty alluvium over loess
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 11.3 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty Lowland - Veg. Zone 3
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 15 inches; silt loam
 H2—15 to 35 inches; silty clay
 H3—35 to 60 inches; silt loam

Minor Components

Fillmore

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Clayey Overflow - Veg. Zone 3

Fm—Fillmore silt loam, 0 to 1 percent slopes

Map Unit Composition

Fillmore: 100 percent

Component Descriptions

Fillmore

MLRA: 73 - Rolling Plains and Breaks*Landform:* Playa, upland*Parent material:* Loess*Slope:* 0 to 1 percent*Drainage class:* Somewhat poorly drained*Slowest permeability:* Very slow (About 0.00 in/hr)*Available water capacity:* High (About 10.4 inches)*Shrink-swell potential:* Very high (About 10.5 LEP)*Flooding hazard:* None*Ponding hazard:* Occasional*Depth to seasonal water saturation:* About 0 to 24 inches*Runoff class:* Negligible*Ecological site:* Clayey Overflow - Veg. Zone 3*Land capability (irrigated):* 4w*Land capability (nonirrigated):* 3w*Typical Profile:*

H1—0 to 16 inches; silt loam

H2—16 to 34 inches; silty clay

H3—34 to 46 inches; silty clay loam

H4—46 to 60 inches; silt loam

Minor Components**Scott****Gb—Gibbon silt loam, 0 to 2 percent slopes**

Map Unit Composition

Gibbon: 100 percent

Component Descriptions

Gibbon

MLRA: 73 - Rolling Plains and Breaks*Landform:* Stream terrace on river valley*Parent material:* Stratified calcareous silty alluvium*Slope:* 0 to 2 percent*Drainage class:* Somewhat poorly drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 11.0 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* About 18 to 36 inches*Runoff class:* Low*Ecological site:* Subirrigated - Veg. Zone 3*Land capability (irrigated):* 2w*Land capability (nonirrigated):* 2w*Typical Profile:*

H1—0 to 7 inches; silt loam

H2—7 to 15 inches; silty clay loam

H3—15 to 60 inches; stratified very fine sandy loam to silty clay loam

Minor Components**Wt At 0-1 Foot****GcF—gravelly Land complex, 3 to 30 percent slopes**

Map Unit Composition

Ustorthents: 100 percent

Component Descriptions

Ustorthents

MLRA: 73 - Rolling Plains and Breaks*Landform:* Hillslope on upland*Parent material:* Sandy and gravelly outwash*Slope:* 3 to 30 percent*Drainage class:* Excessively drained*Slowest permeability:* Very rapid (About 19.98 in/hr)*Available water capacity:* Very low (About 1.2 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very low*Ecological site:* Shallow To Gravel - Veg. Zone 3*Land capability (nonirrigated):* 7s

GP—Gravel Pit

Map Unit Composition

Pits: 100 percent

Component Descriptions

Pits

MLRA: 73 - Rolling Plains and Breaks, 75 - Central Loess Plains

Slope: 0 to 30 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 6.00 in/hr)

Available water capacity: Low (About 3.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Land capability (nonirrigated): 8s

Ha—Hall silt loam, 0 to 1 percent slopes

Map Unit Composition

Hall: 100 percent

Component Descriptions

Hall

MLRA: 75 - Central Loess Plains

Landform: Interfluvium on upland

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.57 in/hr)

Available water capacity: High (About 11.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 6 inches; silt loam

H2—6 to 32 inches; silty clay loam

H3—32 to 38 inches; silt loam

H4—38 to 60 inches; stratified fine sandy loam to loam

Minor Components

Fillmore

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Ecological site: Clayey Overflow - Veg. Zone 3

Hb—Hall silt loam, Terrace, 0 to 1 percent slopes

Map Unit Composition

Hall: 100 percent

Component Descriptions

Hall

MLRA: 73 - Rolling Plains and Breaks

Landform: Stream terrace on river valley

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.57 in/hr)

Available water capacity: High (About 11.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty Lowland - Veg. Zone 3

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 6 inches; silt loam

H2—6 to 32 inches; silty clay loam

H3—32 to 38 inches; silt loam

H4—38 to 60 inches; stratified fine sandy loam to loam

Minor Components

Fillmore

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Ecological site: Clayey Overflow - Veg. Zone 3

Hc—Hastings silt loam, 0 to 1 percent slopes

Map Unit Composition

Hastings: 100 percent

Component Descriptions

Hastings

MLRA: 75 - Central Loess Plains

Landform: Hillslope on upland

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 9 inches; silt loam

H2—9 to 37 inches; silty clay loam

H3—37 to 60 inches; silt loam

Minor Components**Fillmore**

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Ecological site: Clayey Overflow - Veg. Zone 3

HdC—Hersh-Valentine complex, 1 to 6 percent slopes

Map Unit Composition

Hersh: 60 percent

Valentine: 40 percent

Component Descriptions

Hersh

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Coarse-loamy eolian deposits

Slope: 1 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 8.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; fine sandy loam

H2—8 to 16 inches; fine sandy loam

H3—16 to 40 inches; fine sandy loam

H4—40 to 60 inches; loamy fine sand

Valentine

MLRA: 73 - Rolling Plains and Breaks

Landform: Hummock on sand sheet on upland

Parent material: Eolian sands

Slope: 1 to 6 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 4.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sands - Veg. Zone 3

Land capability (irrigated): 4e

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 5 inches; loamy fine sand

H2—5 to 9 inches; loamy fine sand

H3—9 to 80 inches; fine sand

HdD—Hersh-Valentine complex, 6 to 11 percent slopes

Map Unit Composition

Hersh: 60 percent

Valentine: 40 percent

Component Descriptions**Hersh***MLRA: 73 - Rolling Plains and Breaks**Landform: Hillslope on upland**Parent material: Coarse-loamy eolian deposits**Slope: 6 to 11 percent**Drainage class: Well drained**Slowest permeability: Moderately rapid (About 2.00 in/hr)**Available water capacity: Moderate (About 8.1 inches)**Shrink-swell potential: Low (About 1.5 LEP)**Flooding hazard: None**Depth to seasonal water saturation: More than 6 feet**Runoff class: Low**Ecological site: Sandy - Veg. Zone 3**Land capability (irrigated): 4e**Land capability (nonirrigated): 4e***Typical Profile:**

H1—0 to 8 inches; fine sandy loam

H2—8 to 16 inches; fine sandy loam

H3—16 to 40 inches; fine sandy loam

H4—40 to 60 inches; loamy fine sand

Valentine*MLRA: 73 - Rolling Plains and Breaks**Landform: Hummock on sand sheet on upland**Parent material: Eolian sands**Slope: 6 to 11 percent**Drainage class: Excessively drained**Slowest permeability: Rapid (About 5.95 in/hr)**Available water capacity: Low (About 4.0 inches)**Shrink-swell potential: Low (About 1.5 LEP)**Flooding hazard: None**Depth to seasonal water saturation: More than 6 feet**Runoff class: Very low**Ecological site: Sands - Veg. Zone 3**Land capability (irrigated): 4e**Land capability (nonirrigated): 6e***Typical Profile:**

H1—0 to 5 inches; loamy fine sand

H2—5 to 9 inches; loamy fine sand

H3—9 to 80 inches; fine sand

Hf—Hobbs silt loam, Occasionally Flooded, 0 to 2 percent slopes**Map Unit Composition**

Hobbs: 100 percent

Component Descriptions**Hobbs***MLRA: 73 - Rolling Plains and Breaks**Landform: Flood plain on drainageway on upland**Parent material: Stratified silty alluvium**Slope: 0 to 2 percent**Drainage class: Well drained**Slowest permeability: Moderate (About 0.60 in/hr)**Available water capacity: High (About 11.7 inches)**Shrink-swell potential: Low (About 1.5 LEP)**Flooding hazard: Occasional**Depth to seasonal water saturation: More than 6 feet**Runoff class: Negligible**Ecological site: Silty Overflow - Veg. Zone 3**Land capability (irrigated): 2w**Land capability (nonirrigated): 2w***Typical Profile:**

H1—0 to 8 inches; silt loam

H2—8 to 45 inches; stratified silt loam

H3—45 to 60 inches; silt loam

Hh—Holdrege silt loam, 0 to 1 percent slopes**Map Unit Composition**

Holdrege: 100 percent

Component Descriptions**Holdrege***MLRA: 73 - Rolling Plains and Breaks**Landform: Broad interstream divide on upland**Parent material: Loess**Slope: 0 to 1 percent**Drainage class: Well drained**Slowest permeability: Moderately slow (About 0.20 in/hr)**Available water capacity: Very high (About 12.2 inches)**Shrink-swell potential: Moderate (About 4.5 LEP)**Flooding hazard: None**Depth to seasonal water saturation: More than 6 feet*

Runoff class: Low
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 13 inches; silt loam
 H2—13 to 26 inches; silty clay loam
 H3—26 to 34 inches; silt loam
 H4—34 to 60 inches; silt loam

Minor Components

Fillmore

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Clayey Overflow - Veg. Zone 3

HhB—Holdrege silt loam, 1 to 3 percent slopes

Map Unit Composition
 Holdrege: 100 percent

Component Descriptions

Holdrege
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Very high (About 12.2 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 11 inches; silt loam
 H2—11 to 24 inches; silty clay loam
 H3—24 to 32 inches; silt loam
 H4—32 to 60 inches; silt loam

HhC—Holdrege silt loam, 3 to 6 percent slopes

Map Unit Composition

Holdrege: 100 percent

Component Descriptions

Holdrege
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 3 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Very high (About 12.2 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; silt loam
 H2—9 to 22 inches; silty clay loam
 H3—22 to 30 inches; silt loam
 H4—30 to 60 inches; silt loam

HhD—Holdrege silt loam, 6 to 9 percent slopes

Map Unit Composition

Holdrege: 100 percent

Component Descriptions

Holdrege
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 6 to 9 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Very high (About 12.1 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 22 inches; silty clay loam
 H3—22 to 30 inches; silt loam
 H4—30 to 60 inches; silt loam

HnD2—Holdrege And Uly Soils, 3 to 9 percent slopes, Eroded

Map Unit Composition

Holdrege: 65 percent
 Uly: 35 percent

Component Descriptions

Holdrege
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 3 to 9 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Very high (About 12.1 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 21 inches; silty clay loam
 H3—21 to 29 inches; silty clay loam
 H4—29 to 60 inches; silt loam

Uly
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Fine-silty calcareous loess
Slope: 3 to 9 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; silt loam
 H2—7 to 20 inches; silt loam
 H3—20 to 60 inches; silt loam

Hr—Hord silt loam, Terrace, 0 to 1 percent slopes

Map Unit Composition

Hord: 100 percent

Component Descriptions

Hord
MLRA: 73 - Rolling Plains and Breaks
Landform: Stream terrace on river valley
Parent material: Alluvium and/or loess
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Very high (About 12.1 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Silty Lowland - Veg. Zone 3
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 16 inches; silt loam

H2—16 to 41 inches; silt loam
H3—41 to 60 inches; silt loam

HrB—Hord silt loam, Terrace, 1 to 3 percent slopes

Map Unit Composition

Hord: 100 percent

Component Descriptions

Hord

MLRA: 73 - Rolling Plains and Breaks

Landform: Stream terrace on river valley

Parent material: Alluvium and/or loess

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very high (About 12.1 inches)

Shrink-swell potential: Low (About 2.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty Lowland - Veg. Zone 3

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 14 inches; silt loam

H2—14 to 39 inches; silt loam

H3—39 to 60 inches; silt loam

Ig—Inavale loamy sand, 0 to 3 percent slopes

Map Unit Composition

Inavale: 100 percent

Component Descriptions

Inavale

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Sandy alluvium

Slope: 0 to 3 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 5.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy Lowland - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; loamy sand

H2—8 to 24 inches; loamy sand

H3—24 to 60 inches; fine sand

In—Inavale fine sandy loam, 0 to 3 percent slopes

Map Unit Composition

Inavale: 100 percent

Component Descriptions

Inavale

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Sandy alluvium

Slope: 0 to 3 percent

Drainage class: Excessively drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 5.7 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy Lowland - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; fine sandy loam

H2—10 to 26 inches; loamy sand

H3—26 to 60 inches; fine sand

INT—Aquolls

Map Unit Composition

Aquolls: 100 percent

Component Descriptions

Aquolls

MLRA: 73 - Rolling Plains and Breaks, 75 - Central Loess Plains

Landform: Depression

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Very poorly drained

Flooding hazard: None

Ponding hazard: Occasional

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 72 inches; variable

General Considerations: This map unit was formerly labeled as an Intermittent Water spot symbol. These depressional areas contain soils that are occasionally ponded for long duration.

Kn—Kenesaw silt loam, 0 to 1 percent slopes**Map Unit Composition**

Kenesaw: 100 percent

Component Descriptions

Kenesaw

MLRA: 73 - Rolling Plains and Breaks

Landform: Interfluvium on upland

Parent material: Calcareous loess

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 12.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 8 inches; silt loam

H2—8 to 20 inches; silt loam

H3—20 to 60 inches; silt loam

KnB—Kenesaw silt loam, 1 to 3 percent slopes**Map Unit Composition**

Kenesaw: 100 percent

Component Descriptions

Kenesaw

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Calcareous loess

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 12.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 8 inches; silt loam

H2—8 to 20 inches; silt loam

H3—20 to 60 inches; silt loam

KnC—Kenesaw silt loam, 3 to 6 percent slopes**Map Unit Composition**

Kenesaw: 100 percent

Component Descriptions

Kenesaw*MLRA:* 73 - Rolling Plains and Breaks*Landform:* Hillslope on upland*Parent material:* Calcareous loess*Slope:* 3 to 6 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 12.0 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Silty - Veg. Zone 3*Land capability (irrigated):* 3e*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 8 inches; silt loam

H2—8 to 20 inches; silt loam

H3—20 to 60 inches; silt loam

H1—0 to 7 inches; silt loam

H2—7 to 19 inches; silt loam

Cr—19 to 23 inches; weathered bedrock

M-W—Miscellaneous Water, Sewage Lagoon

Map Unit Composition

Miscellaneous Water: 100 percent

Component Descriptions

Miscellaneous Water

MLRA: 73 - Rolling Plains and Breaks, 75 - Central Loess Plains*Depth to seasonal water saturation:* More than 6 feet**Ma—Marsh**

Map Unit Composition

Fluvaquents: 100 percent

Component Descriptions

Fluvaquents

MLRA: 73 - Rolling Plains and Breaks*Landform:* Flood plain on river valley*Parent material:* Silty alluvium*Slope:* 0 to 1 percent*Drainage class:* Very poorly drained*Slowest permeability:* Rapid (About 5.95 in/hr)*Available water capacity:* Low (About 5.9 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* Frequent*Depth to seasonal water saturation:* About 0 to 0 inches*Runoff class:* Negligible*Land capability (nonirrigated):* 8w*Typical Profile:*

H1—0 to 60 inches; sandy loam

Mb—Mccook fine sandy loam, 0 to 2 percent slopes**KsF—Kipson complex, 9 to 30 percent slopes**

Map Unit Composition

Kipson: 100 percent

Component Descriptions

Kipson

MLRA: 73 - Rolling Plains and Breaks*Landform:* Hillslope on upland*Parent material:* Silty and clayey residuum weathered from calcareous shale*Slope:* 9 to 30 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)*Drainage class:* Somewhat excessively drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Low (About 3.8 inches)*Shrink-swell potential:* Low (About 2.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very high*Ecological site:* Shallow Limy - Veg. Zone 3*Land capability (nonirrigated):* 6e*Typical Profile:*

Map Unit Composition
Mccook: 100 percent

Component Descriptions

Mccook

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Stratified calcareous alluvium

Slope: 0 to 2 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty Lowland - Veg. Zone 3

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 11 inches; fine sandy loam

H2—11 to 80 inches; very fine sandy loam

Mc—Mccook silt loam, 0 to 2 percent slopes

Map Unit Composition

Mccook: 100 percent

Component Descriptions

Mccook

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Stratified calcareous alluvium

Slope: 0 to 2 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Silty Lowland - Veg. Zone 3

Land capability (irrigated): 1

Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 21 inches; silt loam

H2—21 to 60 inches; very fine sandy loam

Mn—Munjor loamy fine sand, 0 to 2 percent slopes

Map Unit Composition

Munjor: 100 percent

Component Descriptions

Munjor

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Loamy alluvium

Slope: 0 to 2 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 8.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy Lowland - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; loamy fine sand

H2—9 to 46 inches; fine sandy loam

H3—46 to 60 inches; sand

Mu—Munjor fine sandy loam, 0 to 2 percent slopes

Map Unit Composition

Munjor: 100 percent

Component Descriptions

Munjor
MLRA: 73 - Rolling Plains and Breaks
Landform: Flood plain on river valley
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 8.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Sandy Lowland - Veg. Zone 3
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 9 inches; fine sandy loam
H2—9 to 46 inches; sandy loam
H3—46 to 60 inches; sand

NhF—Nuckolls-Hobbs complex, 9 to 30 percent slopes

Map Unit Composition

Nuckolls: 70 percent
Hobbs: 30 percent

Component Descriptions

Nuckolls
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 9 to 30 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.6 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 10 inches; silt loam
H2—10 to 29 inches; silt loam

H3—29 to 60 inches; silt loam

Hobbs

MLRA: 73 - Rolling Plains and Breaks
Landform: Flood plain on drainageway on upland
Parent material: Stratified silty alluvium
Slope: 0 to 2 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.7 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Silty Overflow - Veg. Zone 3
Land capability (irrigated): 2w
Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 8 inches; silt loam
H2—8 to 45 inches; stratified silt loam
H3—45 to 60 inches; silt loam

NmC—Nuckolls And Holdrege silt loams, 3 to 6 percent slopes

Map Unit Composition

Nuckolls: 50 percent
Holdrege: 50 percent

Component Descriptions

Nuckolls
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 3 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.6 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; silt loam
H2—10 to 29 inches; silt loam
H3—29 to 60 inches; silt loam

Holdrege

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Loess

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Very high (About 12.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; silt loam
H2—9 to 22 inches; silty clay loam
H3—22 to 30 inches; silty clay loam
H4—30 to 60 inches; silt loam

NmD—Nuckolls And Holdrege silt loams, 6 to 9 percent slopes

Map Unit Composition

Nuckolls: 50 percent

Holdrege: 50 percent

Component Descriptions

Nuckolls

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Loess

Slope: 6 to 9 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.6 inches)

Shrink-swell potential: Low (About 2.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 4e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 9 inches; silt loam
H2—9 to 27 inches; silt loam
H3—27 to 60 inches; silt loam

Holdrege

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Loess

Slope: 6 to 9 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Very high (About 12.1 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 4e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; silt loam
H2—8 to 22 inches; silty clay loam
H3—22 to 30 inches; silty clay loam
H4—30 to 60 inches; silt loam

NoD2—Nuckolls And Holdrege Soils, 3 to 9 percent slopes, Eroded

Map Unit Composition

Nuckolls: 50 percent

Holdrege: 50 percent

Component Descriptions

Nuckolls

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Loess

Slope: 3 to 9 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.5 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; silt loam
 H2—7 to 24 inches; silt loam
 H3—24 to 60 inches; silt loam

Holdrege
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 3 to 9 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: Very high (About 12.2 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 21 inches; silty clay loam
 H3—21 to 27 inches; silty clay loam
 H4—27 to 60 inches; silt loam

NpD—Nuckolls And Meadin Soils, 9 to 30 percent slopes

Map Unit Composition

Nuckolls: 50 percent
 Meadin: 50 percent

Component Descriptions

Nuckolls
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loess
Slope: 9 to 30 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 11.6 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Silty - Veg. Zone 3
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 10 inches; silt loam
 H2—10 to 29 inches; silt loam
 H3—29 to 60 inches; silt loam

Meadin
MLRA: 73 - Rolling Plains and Breaks
Landform: Hillslope on upland
Parent material: Loamy alluvium over sandy and gravelly alluvium
Slope: 9 to 30 percent
Drainage class: Excessively drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 4.1 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Shallow To Gravel - Veg. Zone 3
Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 8 inches; loam
 H2—8 to 14 inches; gravelly sandy loam
 H3—14 to 60 inches; gravelly coarse sand

Ra—Riverwash

Map Unit Composition

Fluvaquents: 100 percent

Component Descriptions

Fluvaquents

MLRA: 73 - Rolling Plains and Breaks*Landform:* Flood plain on river valley*Parent material:* Silty alluvium*Slope:* 0 to 1 percent*Drainage class:* Very poorly drained*Slowest permeability:* Rapid (About 5.95 in/hr)*Available water capacity:* Very low (About 0.6 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* Frequent*Depth to seasonal water saturation:* About 0 to 0 inches*Runoff class:* Negligible*Land capability (nonirrigated):* 8w*Typical Profile:*

H1—0 to 6 inches; sand

H2—6 to 60 inches; variable

Minor Components**Wt At 0-1 Foot****RbG—Rough Broken Land, Loess, 20 to 60 percent slopes**

Map Unit Composition

Coly: 100 percent

Component Descriptions

Coly

MLRA: 73 - Rolling Plains and Breaks*Landform:* Break on upland*Parent material:* Fine-silty calcareous loess*Slope:* 20 to 60 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 11.9 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* High*Ecological site:* Thin Loess - Veg. Zone 3*Land capability (nonirrigated):* 7e*Typical Profile:*

H1—0 to 4 inches; silt loam

H2—4 to 80 inches; silt loam

RcF—Rough stony Land, 15 to 30 percent slopes

Map Unit Composition

Canyon: 100 percent

Component Descriptions

Canyon

MLRA: 73 - Rolling Plains and Breaks*Landform:* Hillslope on upland*Parent material:* Calcareous loamy residuum weathered from limestone and sandstone*Slope:* 15 to 30 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Very low (About 2.7 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* High*Ecological site:* Shallow Limy - Veg. Zone 3*Land capability (nonirrigated):* 6s*Typical Profile:*

H1—0 to 9 inches; loam

H2—9 to 16 inches; loam

Cr—16 to 60 inches; weathered bedrock

Rx—Roxbury silt loam, 0 to 2 percent slopes

Map Unit Composition

Roxbury: 100 percent

Component Descriptions

Roxbury

MLRA: 73 - Rolling Plains and Breaks*Landform:* Flood plain on river valley*Parent material:* Calcareous silty alluvium*Slope:* 0 to 2 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)

Available water capacity: Very high (About 12.2 inches)
Shrink-swell potential: Low (About 2.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Silty Lowland - Veg. Zone 3
Land capability (irrigated): 1
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 14 inches; silt loam
 H2—14 to 30 inches; silt loam
 H3—30 to 60 inches; silt loam

Sa—sandy Alluvial Land

Map Unit Composition

Fluvaquents: 100 percent

Component Descriptions

Fluvaquents

MLRA: 73 - Rolling Plains and Breaks

Landform: Flood plain on river valley

Parent material: Silty alluvium

Slope: 0 to 1 percent

Drainage class: Very poorly drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Very low (About 0.6 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Land capability (nonirrigated): 8w

Typical Profile:

H1—0 to 6 inches; sand
 H2—6 to 60 inches; variable

Sc—Scott silt loam, 0 to 1 percent slopes

Map Unit Composition

Scott: 100 percent

Component Descriptions

Scott

MLRA: 73 - Rolling Plains and Breaks

Landform: Playa on upland

Parent material: Loess

Slope: 0 to 1 percent

Drainage class: Poorly drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: High (About 9.6 inches)

Shrink-swell potential: Very high (About 9.5 LEP)

Flooding hazard: None

Ponding hazard: Frequent

Depth to seasonal water saturation: About 0 to 12 inches

Runoff class: Negligible

Ecological site: No Site - Veg. Zone 3

Land capability (nonirrigated): 4w

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 34 inches; clay
 H3—34 to 46 inches; silty clay loam
 H4—46 to 80 inches; silt loam

UaC—Uly silt loam, 3 to 6 percent slopes

Map Unit Composition

Uly: 100 percent

Component Descriptions

Uly

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Fine-silty calcareous loess

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; silt loam
 H2—10 to 28 inches; silt loam
 H3—28 to 60 inches; silt loam

UaD—Uly silt loam, 6 to 11 percent slopes

Map Unit Composition

Uly: 100 percent

Component Descriptions

Uly

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Fine-silty calcareous loess

Slope: 6 to 11 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 11.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Silty - Veg. Zone 3

Land capability (irrigated): 4e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 9 inches; silt loam
 H2—9 to 26 inches; silt loam
 H3—26 to 60 inches; silt loam

VaF—Valentine loamy sand, Hilly

Map Unit Composition

Valentine: 100 percent

Component Descriptions

Valentine

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on sand sheet on upland

Parent material: Eolian sands

Slope: 15 to 60 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 4.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Choppy Sands - Veg. Zone 3

Land capability (nonirrigated): 7e

Typical Profile:

H1—0 to 5 inches; loamy sand
 H2—5 to 9 inches; loamy fine sand
 H3—9 to 80 inches; fine sand

VhD—Valentine-Hersh complex, 11 to 30 percent slopes

Map Unit Composition

Valentine: 65 percent

Hersh: 35 percent

Component Descriptions

Valentine

MLRA: 73 - Rolling Plains and Breaks

Landform: Hummock on sand sheet on upland

Parent material: Eolian sands

Slope: 11 to 30 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 4.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands - Veg. Zone 3

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 6 inches; loamy sand
 H2—6 to 9 inches; loamy fine sand
 H3—9 to 60 inches; fine sand

Hersh

MLRA: 73 - Rolling Plains and Breaks

Landform: Hillslope on upland

Parent material: Coarse-loamy eolian deposits

Slope: 11 to 30 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 8.1 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Sandy - Veg. Zone 3
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 7 inches; fine sandy loam
 H2—7 to 14 inches; fine sandy loam
 H3—14 to 40 inches; fine sandy loam
 H4—40 to 60 inches; loamy fine sand

W—Water

Map Unit Composition

Water: 100 percent

Component Descriptions

Water

MLRA: 73 - Rolling Plains and Breaks, 75 - Central Loess Plains

Depth to seasonal water saturation: More than 6 feet

General Considerations: Water includes streams, lakes, ponds, and estuaries. These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year.

Wa—Wann fine sandy loam, 0 to 2 percent slopes

Map Unit Composition

Wann: 100 percent

Component Descriptions

Wann

MLRA: 73 - Rolling Plains and Breaks

Landform: Stream terrace on river valley

Parent material: Calcareous loamy alluvium

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 8.0 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 18 to 42 inches

Runoff class: Negligible

Ecological site: Subirrigated - Veg. Zone 3

Land capability (irrigated): 2w

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 11 inches; fine sandy loam
 H2—11 to 42 inches; sandy loam
 H3—42 to 60 inches; stratified fine sand to sandy clay loam

Minor Components

Wt At 0-1 Foot

Wb—Wann silt loam, 0 to 2 percent slopes

Map Unit Composition

Wann: 100 percent

Component Descriptions

Wann

MLRA: 73 - Rolling Plains and Breaks

Landform: Stream terrace on river valley

Parent material: Calcareous loamy alluvium

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.6 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 18 to 42 inches

Runoff class: Negligible

Ecological site: Subirrigated - Veg. Zone 3

Land capability (irrigated): 2w

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 11 inches; silt loam
 H2—11 to 42 inches; sandy loam

H3—42 to 60 inches; stratified fine sand to
sandy clay loam

Minor Components

Wt At 0-1 Foot

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land-forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

(Class 1) soils have slight limitations that restrict their use.

(Class 2) soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

(Class 3) soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

(Class 4) soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

(Class 5) soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 6) soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 7) soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

(Class 8) soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 2e. The letter e shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the Land Capability and Component Yields table.

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in "Land Capability and Component Yields" table. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, animal waste manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in this table, are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service (NRCS) or the Cooperative Extension Service (CES) can provide information about the management and productivity of the soils for those crops.

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Franklin County, Nebraska

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(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu				Bu	
Br: HOBBS-----	6w	---	---	---	---	---	---	---	---	---
Bu: BUTLER-----	2w	2w	60.00	149.00	77.00	110.00	---	---	36.00	---
CaF: CAMPUS-----	6e	---	---	---	---	---	---	---	---	---
CnF: CANYON-----	6s	---	---	---	---	---	---	---	---	---
CAMPUS-----	6e	---	---	---	---	---	---	---	---	---
CoD2: COLY-----	4e	4e	33.00	---	45.00	---	---	---	25.00	---
ULY-----	4e	4e	33.00	---	45.00	---	---	---	25.00	---
CoF: COLY-----	6e	---	---	---	---	---	---	---	---	---
ULY-----	6e	---	---	---	---	---	---	---	---	---
De: DETROIT-----	2c	1	59.00	154.00	74.00	115.00	---	---	42.00	---
Fm: FILLMORE-----	3w	4w	46.00	---	63.00	---	---	---	24.00	---
Gb: GIBBON-----	2w	2w	73.00	143.00	91.00	115.00	---	---	35.00	---
GcF: USTORTHERTS-----	7s	---	---	---	---	---	---	---	---	---
GP: PITS-----	8s	---	---	---	---	---	---	---	---	---
Ha: HALL-----	2c	1	68.00	160.00	85.00	120.00	---	---	45.00	---
Hb: HALL-----	2c	1	65.00	160.00	85.00	120.00	---	---	44.00	---
Hc: HASTINGS-----	2c	1	60.00	154.00	78.00	120.00	---	---	44.00	---
HdC: HERSH-----	3e	3e	38.00	99.00	53.00	85.00	---	---	28.00	---
VALENTINE-----	6e	4e	38.00	99.00	53.00	85.00	---	---	28.00	---
HdD: HERSH-----	4e	4e	31.00	---	43.00	---	---	---	22.00	---
VALENTINE-----	6e	4e	31.00	---	43.00	---	---	---	22.00	---
Hf: HOBBS-----	2w	2w	78.00	149.00	95.00	110.00	---	---	35.00	---
Hh: HOLDREGE-----	2c	1	61.00	160.00	81.00	120.00	---	---	44.00	---
HhB: HOLDREGE-----	2e	2e	57.00	154.00	77.00	115.00	---	---	42.00	---
HhC: HOLDREGE-----	3e	3e	52.00	138.00	70.00	105.00	---	---	37.00	---
HhD: HOLDREGE-----	4e	4e	43.00	---	57.00	---	---	---	31.00	---
HnD2: HOLDREGE-----	4e	4e	39.00	---	52.00	---	---	---	29.00	---
ULY-----	4e	4e	39.00	---	52.00	---	---	---	29.00	---
Hr: HORD-----	2c	1	73.00	160.00	91.00	120.00	---	---	47.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Franklin County, Nebraska

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(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu				Bu	
HrB: HORD-----	2e	2e	64.00	154.00	84.00	115.00	---	---	44.00	---
Ig: INAVALE-----	4e	3e	33.00	99.00	46.00	80.00	---	---	22.00	---
In: INAVALE-----	3e	3e	39.00	121.00	56.00	100.00	---	---	24.00	---
INT: AQUOLLS-----	5w	---	---	---	---	---	---	---	---	---
Kn: KENESAW-----	2c	1	57.00	154.00	77.00	115.00	---	---	42.00	---
KnB: KENESAW-----	2e	2e	55.00	149.00	74.00	110.00	---	---	39.00	---
KnC: KENESAW-----	3e	3e	44.00	138.00	60.00	105.00	---	---	33.00	---
KsF: KIPSON-----	6e	---	---	---	---	---	---	---	---	---
M-W: MISCELLANEOUS WATER-----	---	---	---	---	---	---	---	---	---	---
Ma: FLUVAQUENTS-----	8w	---	---	---	---	---	---	---	---	---
Mb: MCCOOK-----	2e	2e	60.00	149.00	77.00	110.00	---	---	39.00	---
Mc: MCCOOK-----	1	1	73.00	160.00	95.00	120.00	---	---	44.00	---
Mn: MUNJOR-----	3e	3e	39.00	110.00	56.00	95.00	---	---	28.00	---
Mu: MUNJOR-----	2e	2e	52.00	143.00	71.00	105.00	---	---	35.00	---
NhF: NUCKOLLS-----	6e	---	---	---	---	---	---	---	---	---
HOBBS-----	2w	2w	---	---	---	---	---	---	---	---
NmC: HOLDREGE-----	3e	3e	48.00	138.00	66.00	105.00	---	---	35.00	---
NUCKOLLS-----	3e	3e	48.00	138.00	66.00	105.00	---	---	35.00	---
NmD: HOLDREGE-----	4e	4e	38.00	---	52.00	---	---	---	29.00	---
NUCKOLLS-----	4e	4e	38.00	---	52.00	---	---	---	29.00	---
NoD2: HOLDREGE-----	4e	4e	35.00	---	48.00	---	---	---	26.00	---
NUCKOLLS-----	4e	4e	35.00	---	48.00	---	---	---	26.00	---
NpD: MEADIN-----	6s	---	---	---	---	---	---	---	---	---
NUCKOLLS-----	6e	---	---	---	---	---	---	---	---	---
Ra: FLUVAQUENTS-----	8w	---	---	---	---	---	---	---	---	---
RbG: COLY-----	7e	---	---	---	---	---	---	---	---	---
RcF: CANYON-----	6s	---	---	---	---	---	---	---	---	---
Rx: ROXBURY-----	1	1	75.00	160.00	95.00	120.00	---	---	44.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Franklin County, Nebraska

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(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability		Corn		Grain sorghum		Soybeans		Winter wheat	
	N	I	N	I	N	I	N	I	N	I
			Bu		Bu				Bu	
Sa: FLUVAQUENTS-----	8w	---	---	---	---	---	---	---	---	---
Sc: SCOTT-----	4w	---	20.00	---	42.00	---	---	---	17.00	---
UaC: ULY-----	3e	3e	46.00	138.00	66.00	105.00	---	---	33.00	---
UaD: ULY-----	4e	4e	39.00	---	53.00	---	---	---	29.00	---
VaF: VALENTINE-----	7e	---	---	---	---	---	---	---	---	---
VhD: VALENTINE-----	6e	---	---	---	---	---	---	---	---	---
HERSH-----	6e	---	---	---	---	---	---	---	---	---
W: WATER-----	---	---	---	---	---	---	---	---	---	---
Wa: WANN-----	2w	2w	65.00	143.00	84.00	110.00	---	---	33.00	---
Wb: WANN-----	2w	2w	70.00	149.00	88.00	115.00	---	---	39.00	---

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in the following table. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in the "Acres and Proportionate Extent of Soils" table. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described in other tables in this document."

Map symbol	Mapunit name	Farmland Classification
De	Detroit silt loam, 0 to 1 percent slopes	All areas are prime farmland
Ha	Hall silt loam, 0 to 1 percent slopes	All areas are prime farmland
Hb	Hall silt loam, terrace, 0 to 1 percent slopes	All areas are prime farmland
Hc	Hastings silt loam, 0 to 1 percent slopes	All areas are prime farmland
Hf	Hobbs silt loam, occasionally flooded, 0 to 2 percent slopes	All areas are prime farmland
Hh	Holdrege silt loam, 0 to 1 percent slopes	All areas are prime farmland
HhB	Holdrege silt loam, 1 to 3 percent slopes	All areas are prime farmland
HhC	Holdrege silt loam, 3 to 6 percent slopes	All areas are prime farmland
Hr	Hord silt loam, terrace, 0 to 1 percent slopes	All areas are prime farmland
HrB	Hord silt loam, terrace, 1 to 3 percent slopes	All areas are prime farmland
Kn	Kenesaw silt loam, 0 to 1 percent slopes	All areas are prime farmland
KnB	Kenesaw silt loam, 1 to 3 percent slopes	All areas are prime farmland
KnC	Kenesaw silt loam, 3 to 6 percent slopes	All areas are prime farmland
Mb	Mccook fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
Mc	Mccook silt loam, 0 to 2 percent slopes	All areas are prime farmland
Mu	Munjoy fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
NmC	Nuckolls and holdrege silt loams, 3 to 6 percent slopes	All areas are prime farmland
Rx	Roxbury silt loam, 0 to 2 percent slopes	All areas are prime farmland
UaC	Uly silt loam, 3 to 6 percent slopes	All areas are prime farmland
Bu	Butler silt loam, 0 to 1 percent slopes	Prime farmland if drained
Gb	Gibbon silt loam, 0 to 2 percent slopes	Prime farmland if drained
Wa	Wann fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
Wb	Wann silt loam, 0 to 2 percent slopes	Prime farmland if drained

The "Soil Rating for Plant Growth, modified 1998" (SRPG) is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Map symbol	Soil name	Crop Index
Br	Broken Alluvial Land-----	52
Bu	Butler Silt Loam, 0 To 1 Percent Slopes-----	71
CaF	Campus Complex, 9 To 30 Percent Slopes-----	16
CnF	Canyon-Campus Loams, 9 To 30 Percent Slopes-----	7
CoD2	Coly-Uly Silt Loams, 3 To 9 Percent Slopes, Eroded-----	56
CoF	Coly-Uly Silt Loams, 9 To 30 Percent Slopes-----	36
De	Detroit Silt Loam, 0 To 1 Percent Slopes-----	68
Fm	Fillmore Silt Loam, 0 To 1 Percent Slopes-----	48
GP	Gravel Pit-----	18
Gb	Gibbon Silt Loam, 0 To 2 Percent Slopes-----	53
GcF	Gravelly Land Complex, 3 To 30 Percent Slopes-----	12
Ha	Hall Silt Loam, 0 To 1 Percent Slopes-----	74
Hb	Hall Silt Loam, Terrace, 0 To 1 Percent Slopes-----	74
Hc	Hastings Silt Loam, 0 To 1 Percent Slopes-----	70
HdC	Hersh-Valentine Complex, 1 To 6 Percent Slopes-----	45
HdD	Hersh-Valentine Complex, 6 To 11 Percent Slopes-----	41
Hf	Hobbs Silt Loam, Occasionally Flooded, 0 To 2 Percent Slopes-----	66
Hh	Holdrege Silt Loam, 0 To 1 Percent Slopes-----	74
HhB	Holdrege Silt Loam, 1 To 3 Percent Slopes-----	73
HhC	Holdrege Silt Loam, 3 To 6 Percent Slopes-----	70
HhD	Holdrege Silt Loam, 6 To 9 Percent Slopes-----	67
HnD2	Holdrege And Uly Soils, 3 To 9 Percent Slopes, Eroded-----	68
Hr	Hord Silt Loam, Terrace, 0 To 1 Percent Slopes-----	74
HrB	Hord Silt Loam, Terrace, 1 To 3 Percent Slopes-----	73
INT	Aquolls-----	12
Ig	Inavale Loamy Sand, 0 To 3 Percent Slopes-----	31
In	Inavale Fine Sandy Loam, 0 To 3 Percent Slopes-----	33
Kn	Kenesaw Silt Loam, 0 To 1 Percent Slopes-----	71
KnB	Kenesaw Silt Loam, 1 To 3 Percent Slopes-----	70
KnC	Kenesaw Silt Loam, 3 To 6 Percent Slopes-----	67
KsF	Kipson Complex, 9 To 30 Percent Slopes-----	5
M-W	Miscellaneous Water, Sewage Lagoon-----	0
Ma	Marsh-----	4
Mb	Mccook Fine Sandy Loam, 0 To 2 Percent Slopes-----	56
Mc	Mccook Silt Loam, 0 To 2 Percent Slopes-----	59
Mn	Munjor Loamy Fine Sand, 0 To 2 Percent Slopes-----	47
Mu	Munjor Fine Sandy Loam, 0 To 2 Percent Slopes-----	49
NhF	Nuckolls-Hobbs Complex, 9 To 30 Percent Slopes-----	47
NmC	Nuckolls And Holdrege Silt Loams, 3 To 6 Percent Slopes-----	68
NmD	Nuckolls And Holdrege Silt Loams, 6 To 9 Percent Slopes-----	64
NoD2	Nuckolls And Holdrege Soils, 3 To 9 Percent Slopes, Eroded-----	67
NpD	Nuckolls And Meadin Soils, 9 To 30 Percent Slopes-----	29
Ra	Riverwash-----	2
RbG	Rough Broken Land, Loess, 20 To 60 Percent Slopes-----	3
RcF	Rough Stony Land, 15 To 30 Percent Slopes-----	3
Rx	Roxbury Silt Loam, 0 To 2 Percent Slopes-----	61
Sa	Sandy Alluvial Land-----	17
Sc	Scott Silt Loam, 0 To 1 Percent Slopes-----	20
UaC	Uly Silt Loam, 3 To 6 Percent Slopes-----	66
UaD	Uly Silt Loam, 6 To 11 Percent Slopes-----	61
VaF	Valentine Loamy Sand, Hilly-----	2
VhD	Valentine-Hersh Complex, 11 To 30 Percent Slopes-----	20
W	Water-----	0
Wa	Wann Fine Sandy Loam, 0 To 2 Percent Slopes-----	43
Wb	Wann Silt Loam, 0 To 2 Percent Slopes-----	49

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
Br:HOBBS-----	100	N/A	6w	Not prime farmland	B	Silty Overflow - Veg. Zone 3		.32	.32	5	6	48
Bu:BUTLER-----	100	2w-	2w	Prime farmland if drained	D	Clayey - Veg. Zone 3		.37	.37	3	6	48
CaF:CAMPUS-----	100	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 3		.28	.28	2	4L	86
CnF:CANYON-----	75	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 3		.32	.32	2	4L	86
CnF:CAMPUS-----	25	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 3		.28	.28	2	4L	86
CoD2:COLY-----	60	4e-	4e	Not prime farmland	B	Limy Upland - Veg. Zone 3		.43	.43	5	4L	86
CoD2:ULY-----	40	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
CoF:COLY-----	60	N/A	6e	Not prime farmland	B	Limy Upland - Veg. Zone 3		.43	.43	5	4L	86
CoF:ULY-----	40	N/A	6e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
De:DETROIT-----	100	1-	2c	All areas are prime farmland	C	Silty Lowland - Veg. Zone 3		.37	.37	5	6	48
Fm:FILLMORE-----	100	4w-	3w	Not prime farmland	D	Clayey Overflow - Veg. Zone 3		.37	.37	3	6	48
GP:PITS-----	100	N/A	8s	Not prime farmland	A	Unspecified		.10	.17	2	8	0
Gb:GIBBON-----	100	2w-	2w	Prime farmland if drained	B	Subirrigated - Veg. Zone 3		.32	.32	5	4L	86
GcF:USTORTHEMETS-	100	N/A	7s	Not prime farmland	A	Shallow To Gravel - Veg. Zone 3		.05	.10	5	8	0
Ha:HALL-----	100	1-	2c	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
Hb:HALL-----	100	1-	2c	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.32	.32	5	6	48
Hc:HASTINGS-----	100	1-	2c	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HdC:HERSH-----	60	3e-	3e	Not prime farmland	B	Sandy - Veg. Zone 3		.24	.24	5	3	86

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
HdC:VALENTINE---	40	4e-	6e	Not prime farmland	A	Sands - Veg. Zone 3		.17	.17	5	2	134
HdD:HERSH-----	60	4e-	4e	Not prime farmland	B	Sandy - Veg. Zone 3		.24	.24	5	3	86
HdD:VALENTINE---	40	4e-	6e	Not prime farmland	A	Sands - Veg. Zone 3		.17	.17	5	2	134
Hf:HOBBS-----	100	2w-	2w	All areas are prime farmland	B	Silty Overflow - Veg. Zone 3		.32	.32	5	6	48
Hh:HOLDREGE----	100	1-	2c	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HhB:HOLDREGE----	100	2e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HhC:HOLDREGE----	100	3e-	3e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HhD:HOLDREGE----	100	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HnD2:HOLDREGE---	65	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
HnD2:ULY-----	35	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
Hr:HORD-----	100	1-	2c	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.32	.32	5	6	48
HrB:HORD-----	100	2e-	2e	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.32	.32	5	6	48
INT:AQUOLLS----	100	N/A	5w	Not prime farmland	C	Unspecified		---	---	-	---	0
Ig:INVALE-----	100	3e-	4e	Not prime farmland	A	Sandy Lowland - Veg. Zone 3		.17	.17	5	2	134
In:INVALE-----	100	3e-	3e	Not prime farmland	A	Sandy Lowland - Veg. Zone 3		.24	.24	5	3	86
Kn:KENESAW-----	100	1-	2c	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
KnB:KENESAW----	100	2e-	2e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
KnC:KENESAW----	100	3e-	3e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
KsF:KIPSON-----	100	N/A	6e	Not prime farmland	D	Shallow Limy - Veg. Zone 3		.32	.32	2	4L	86
M- W:MISCELLANEOUS WATER-----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	---
Ma:FLUVAQUENTS--	100	N/A	8w	Not prime farmland	D	Unspecified		.17	.17	5	8	0
Mb:MCCOOK-----	100	2e-	2e	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.20	.20	5	3	86
Mc:MCCOOK-----	100	1-	1	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.32	.32	5	4L	86
Mn:MUNJOR-----	100	3e-	3e	Not prime farmland	B	Sandy Lowland - Veg. Zone 3		.17	.17	4	2	134
Mu:MUNJOR-----	100	2e-	2e	All areas are prime farmland	B	Sandy Lowland - Veg. Zone 3		.24	.24	4	3	86
NhF:NUCKOLLS----	70	N/A	6e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NhF:HOBBS-----	30	2w-	2w	Not prime farmland	B	Silty Overflow - Veg. Zone 3		.32	.32	5	6	48
NmC:NUCKOLLS----	50	3e-	3e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NmC:HOLDREGE----	50	3e-	3e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NmD:NUCKOLLS----	50	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NmD:HOLDREGE----	50	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NoD2:NUCKOLLS----	50	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NoD2:HOLDREGE----	50	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NpD:NUCKOLLS----	50	N/A	6e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
NpD:MEADIN-----	50	N/A	6s	Not prime farmland	A	Shallow To Gravel - Veg. Zone 3		.28	.28	5	5	56
Ra:FLUVAQUENTS--	100	N/A	8w	Not prime farmland	D	Unspecified		.17	.17	5	8	0

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
RbG:COLY-----	100	N/A	7e	Not prime farmland	B	Thin Loess - Veg. Zone 3		.43	.43	5	4L	86
RcF:CANYON-----	100	N/A	6s	Not prime farmland	D	Shallow Limy - Veg. Zone 3		.32	.32	2	4L	86
Rx:ROXBURY-----	100	1-	1	All areas are prime farmland	B	Silty Lowland - Veg. Zone 3		.32	.32	5	4L	86
Sa:FLUVAQUENTS--	100	N/A	8w	Not prime farmland	D	Unspecified		.17	.17	5	8	0
Sc:SCOTT-----	100	N/A	4w	Not prime farmland	D	No Site - Veg. Zone 3		.37	.37	3	6	48
UaC:ULY-----	100	3e-	3e	All areas are prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
UaD:ULY-----	100	4e-	4e	Not prime farmland	B	Silty - Veg. Zone 3		.32	.32	5	6	48
VaF:VALENTINE---	100	N/A	7e	Not prime farmland	A	Choppy Sands - Veg. Zone 3		.17	.17	5	2	134
VhD:VALENTINE---	65	N/A	6e	Not prime farmland	A	Sands - Veg. Zone 3		.17	.17	5	2	134
VhD:HERSH-----	35	N/A	6e	Not prime farmland	B	Sandy - Veg. Zone 3		.24	.24	5	3	86
W:WATER-----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	0
Wa:WANN-----	100	2w-	2w	Prime farmland if drained	B	Subirrigated - Veg. Zone 3		.20	.20	5	3	86
Wb:WANN-----	100	2w-	2w	Prime farmland if drained	B	Subirrigated - Veg. Zone 3		.32	.32	5	5	56

RANGELAND PRODUCTIVITY
Franklin County, Nebraska

Use and Explanation of Rangeland, Grazed Forest Land, Native Pastureland Interpretations

Information in this subsection can be used to plan the use and management of soils for rangeland, grazed forest land, and native pasture. Different kinds of soils vary in their capacity to produce native grasses and other plants suitable for grazing. Information in this subsection provides groupings of similar soils and estimates of potential forage production, which can be used to determine livestock stocking rates.

Rangeland. Range is land on which the native vegetation (climax or natural potential plant community) is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. Range includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain shrub and forb communities. Rangeland receives no regular or frequent cultural treatment. The composition and production of the plant community are determined by soil, climate, topography, overstory canopy, and grazing management.

Grazed Forest Land. Includes land on which the understory includes, as an integral part of the forest plant community, plants that can be grazed without significantly impairing other forest values.

Native Pasture. Includes land on which the native vegetation (climax or natural potential plant community) is forest but which is used and managed primarily for production of native plants for forage. Native pasture includes cut-over forest land and forest land cleared and now managed for native or naturalized forage plants.

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management based on the relationship between the soils and vegetation and water.

The Rangeland, Grazed Forest land, Native Pastureland Interpretations shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, unfavorable years. An explanation of the column headings in this table follows.

An ecological site is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, average, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the National Range and Pasture Handbook, which is available in local offices of the Natural Resources Conservation Service. The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

RANGELAND PRODUCTIVITY--Continued
Franklin County, Nebraska

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Br: Hobbs-----	Silty Overflow - Veg. Zone 3	4,500	4,000	3,800
Bu: Butler-----	Clayey - Veg. Zone 3	3,800	3,400	3,000
CaF: Campus-----	Limy Upland - Veg. Zone 3	3,000	2,000	1,000
CnF: Canyon-----	Shallow Limy - Veg. Zone 3	1,500	1,400	1,200
Campus-----	Limy Upland - Veg. Zone 3	3,000	2,000	1,000
CoD2: Coly-----	Limy Upland - Veg. Zone 3	3,300	3,000	2,700
Uly-----	Silty - Veg. Zone 3	3,700	3,200	2,700
CoF: Coly-----	Limy Upland - Veg. Zone 3	3,300	3,000	2,700
Uly-----	Silty - Veg. Zone 3	3,700	3,200	2,700
De: Detroit-----	Silty Lowland - Veg. Zone 3	6,000	4,500	3,000
Fm: Fillmore-----	Clayey Overflow - Veg. Zone 3	3,200	2,700	2,200
Gb: Gibbon-----	Subirrigated - Veg. Zone 3	5,500	5,300	5,000
GcF: Ustorthents-----	Shallow To Gravel - Veg. Zone 3	1,100	900	700
GP: Pits-----	---	---	---	---
Ha: Hall-----	Silty - Veg. Zone 3	4,000	3,600	3,300
Hb: Hall-----	Silty Lowland - Veg. Zone 3	4,000	3,600	3,300
Hc: Hastings-----	Silty - Veg. Zone 3	4,000	3,600	3,300
HdC: Hersh-----	Sandy - Veg. Zone 3	3,500	3,300	3,000
Valentine-----	Sands - Veg. Zone 3	3,000	2,600	2,200
HdD: Hersh-----	Sandy - Veg. Zone 3	3,500	3,300	3,000
Valentine-----	Sands - Veg. Zone 3	3,000	2,600	2,200
Hf: Hobbs-----	Silty Overflow - Veg. Zone 3	4,500	4,000	3,800
Hh: Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
HhB: Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
HhC: Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
HhD: Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
HnD2: Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
Uly-----	Silty - Veg. Zone 3	3,700	3,200	2,700
Hr: Hord-----	Silty Lowland - Veg. Zone 3	4,000	3,600	3,300
HrB: Hord-----	Silty Lowland - Veg. Zone 3	4,000	3,600	3,300
Ig: Inavale-----	Sandy Lowland - Veg. Zone 3	3,500	3,000	2,200
In: Inavale-----	Sandy Lowland - Veg. Zone 3	3,200	2,900	2,600
INT: Aquolls-----	---	---	---	---
Kn: Kenesaw-----	Silty - Veg. Zone 3	4,000	3,600	3,300
KnB: Kenesaw-----	Silty - Veg. Zone 3	4,000	3,600	3,300
KnC: Kenesaw-----	Silty - Veg. Zone 3	4,000	3,600	3,300
KsF: Kipson-----	Shallow Limy - Veg. Zone 3	4,500	3,500	2,000
M-W: Miscellaneous Water-----	---	---	---	---
Ma: Fluvaquents-----	---	---	---	---
Mb: Mccook-----	Silty Lowland - Veg. Zone 3	3,800	3,300	2,800
Mc: Mccook-----	Silty Lowland - Veg. Zone 3	3,800	3,300	2,800
Mn: Munjor-----	Sandy Lowland - Veg. Zone 3	4,000	3,000	2,000
Mu: Munjor-----	Sandy Lowland - Veg. Zone 3	3,500	2,800	2,200
NhF: Nuckolls-----	Silty - Veg. Zone 3	3,600	3,200	2,700
Hobbs-----	Silty Overflow - Veg. Zone 3	4,500	4,000	3,800
NmC:				

RANGELAND PRODUCTIVITY--Continued
Franklin County, Nebraska

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
Nuckolls-----	Silty - Veg. Zone 3	3,600	3,200	2,700
NmD:				
Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
Nuckolls-----	Silty - Veg. Zone 3	3,600	3,200	2,700
Nod2:				
Holdrege-----	Silty - Veg. Zone 3	4,000	3,600	3,300
Nuckolls-----	Silty - Veg. Zone 3	3,600	3,200	2,700
NpD:				
Meadin-----	Shallow To Gravel - Veg. Zone 3	1,500	1,300	1,100
Nuckolls-----	Silty - Veg. Zone 3	3,600	3,200	2,700
Ra:				
Fluvaquents-----	---	---	---	---
RbG:				
Coly-----	Thin Loess - Veg. Zone 3	2,800	2,600	2,400
RcF:				
Canyon-----	Shallow Limy - Veg. Zone 3	1,500	1,400	1,200
Rx:				
Roxbury-----	Silty Lowland - Veg. Zone 3	5,000	4,000	3,000
Sa:				
Fluvaquents-----	---	---	---	---
Sc:				
Scott-----	No Site - Veg. Zone 3	3,900	3,300	2,300
UaC:				
Uly-----	Silty - Veg. Zone 3	3,700	3,200	2,700
UaD:				
Uly-----	Silty - Veg. Zone 3	3,700	3,200	2,700
VaF:				
Valentine-----	Choppy Sands - Veg. Zone 3	2,800	2,400	2,000
VhD:				
Valentine-----	Sands - Veg. Zone 3	3,000	2,600	2,200
Hersh-----	Sandy - Veg. Zone 3	3,500	3,300	3,000
W:				
Water-----	---	---	---	---
Wa:				
Wann-----	Subirrigated - Veg. Zone 3	5,500	5,300	5,000
Wb:				
Wann-----	Subirrigated - Veg. Zone 3	5,500	5,300	5,000

BUILDING SITE DEVELOPMENT
Franklin County, Nebraska

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. These tables show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Bu: Butler-----	100	Very limited Shrink-swell	1.00	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell	1.00
		Depth to saturated zone	1.00			Depth to saturated zone	1.00
CaF: Campus-----	100	Somewhat limited Depth to hard bedrock	0.84	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.84
CnF: Canyon-----	75	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Slope	1.00
		Slope	1.00	Slope	1.00	Depth to soft bedrock	1.00
Campus-----	25	Somewhat limited Depth to hard bedrock	0.84	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.84
CoD2: Coly-----	60	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
Uly-----	40	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
CoF: Coly-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Uly-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
De: Detroit-----	100	Very limited Shrink-swell	1.00	Not limited		Very limited Shrink-swell	1.00
Fm: Fillmore-----	100	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
Gb: Gibbon-----	100	Somewhat limited Depth to saturated zone	0.07	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.07
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Somewhat limited Shrink-swell	0.00	Not limited		Somewhat limited Shrink-swell	0.00
Hb: Hall-----	100	Somewhat limited Shrink-swell	0.00	Not limited		Somewhat limited Shrink-swell	0.00
Hc: Hastings-----	100	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
HdC: Hersh-----	60	Not limited		Not limited		Somewhat limited Slope	0.00
Valentine-----	40	Not limited		Not limited		Somewhat limited Slope	0.00
HdD: Hersh-----	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Valentine-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Hf: Hobbs-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Hh: Holdrege-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
HhB: Holdrege-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
HhC: Holdrege-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
HhD: Holdrege-----	100	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Slope	0.00	Very limited Slope Shrink-swell	1.00 0.50
HnD2: Holdrege-----	65	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.48
Uly-----	35	Not limited		Not limited		Somewhat limited Slope	0.48
Hr: Hord-----	100	Not limited		Not limited		Not limited	
HrB: Hord-----	100	Not limited		Not limited		Not limited	
Ig: Inavale-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
In: Inavale-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
INT: Aquolls-----	100	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Kn: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnB: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnC: Kenesaw-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
KsF: Kipson-----	100	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Ma: Fluvaquents-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Mb: Mccook-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Mc: Mccook-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Mn: Munjor-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Mu: Munjor-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
NhF: Nuckolls-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hobbs-----	30	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NmC: Holdrege-----	50	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
Nuckolls-----	50	Not limited		Not limited		Slope Somewhat limited Slope	0.12 0.12
NmD: Holdrege-----	50	Somewhat limited Shrink-swell Slope	0.50 0.00	Somewhat limited Slope	0.00	Very limited Slope Shrink-swell	1.00 0.50
Nuckolls-----	50	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
NoD2: Holdrege-----	50	Not limited		Not limited		Somewhat limited Slope	0.48
Nuckolls-----	50	Not limited		Not limited		Somewhat limited Slope	0.48
NpD: Meadin-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Nuckolls-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Ra: Fluvaquents-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
RbG: Coly-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
RcF: Canyon-----	100	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
Rx: Roxbury-----	100	Not limited		Not limited		Not limited	
Sa: Fluvaquents-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Sc: Scott-----	100	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
UaC: Uly-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
UaD: Uly-----	100	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
VaF: Valentine-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
VhD: Valentine-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Herh-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Wann-----	100	Not limited		Very limited Depth to saturated zone	1.00	Not limited	
Wb: Wann-----	100	Not limited		Very limited Depth to saturated zone	1.00	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.80 0.10	Very limited Flooding	1.00
Bu: Butler-----	100	Very limited Shrink-swell Frost action Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.50 0.10	Very limited Depth to saturated zone	1.00
CaF: Campus-----	100	Somewhat limited Depth to hard bedrock Slope	0.84 0.63	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to bedrock Slope	0.84 0.63
CnF: Canyon-----	75	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.72
Campus-----	25	Somewhat limited Depth to hard bedrock Slope	0.84 0.63	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to bedrock Slope	0.84 0.63
CoD2: Coly-----	60	Somewhat limited Frost action Slope	0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
Uly-----	40	Somewhat limited Frost action Slope	0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
CoF: Coly-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Uly-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
De: Detroit-----	100	Very limited Shrink-swell	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
Fm: Fillmore-----	100	Very limited Shrink-swell Ponding Frost action Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 0.50 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
Gb: Gibbon-----	100	Very limited Frost action Depth to saturated zone	1.00 0.03	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.03
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Somewhat limited Frost action Shrink-swell	0.50 0.00	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Hb: Hall-----	100	Somewhat limited Frost action Shrink-swell	0.50 0.00	Somewhat limited Cutbanks cave	0.10	Not limited	
Hc: Hastings-----	100	Very limited Shrink-swell Frost action	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
HdC: Hersh-----	60	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Valentine-----	40	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.67
HdD: Hersh-----	60	Somewhat limited Frost action Slope	0.50 0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Slope	0.04
Valentine-----	40	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Somewhat limited Droughty Slope	0.67 0.04
Hf: Hobbs-----	100	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60
Hh: Holdrege-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
HhB: Holdrege-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
HhC: Holdrege-----	100	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
HhD: Holdrege-----	100	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
HnD2: Holdrege-----	65	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Uly-----	35	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Hr: Hord-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
HrB: Hord-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ig: Inavale-----	100	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.09
In: Inavale-----	100	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Not limited	
INT: Aguolls-----	100	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
Kn: Kenesaw-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
KnB: Kenesaw-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
KnC: Kenesaw-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KsF: Kipson-----	100	Very limited Depth to soft bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Carbonate content Content of large stones Droughty	1.00 1.00 0.20 0.02
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Ma: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone Droughty	1.00 1.00 0.00
Mb: Mccook-----	100	Somewhat limited Frost action Flooding	0.50 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
Mc: Mccook-----	100	Somewhat limited Frost action Flooding	0.50 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
Mn: Munjor-----	100	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Not limited	
Mu: Munjor-----	100	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Not limited	
NhF: Nuckolls-----	70	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Hobbs-----	30	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60
NmC: Holdrege-----	50	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Nuckolls-----	50	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
NmD: Holdrege-----	50	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
Nuckolls-----	50	Somewhat limited Frost action Slope	0.50 0.00	Somewhat limited Cutbanks cave Slope	0.10 0.00	Somewhat limited Slope	0.00
NoD2: Holdrege-----	50	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Nuckolls-----	50	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
NpD: Meadin-----	50	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.23
Nuckolls-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Ra: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone Droughty Too sandy	1.00 1.00 1.00 0.50

BUILDING SITE DEVELOPMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RbG: Coly-----	100	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
RcF: Canyon-----	100	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.72
Rx: Roxbury-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sa: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone Droughty Too sandy	1.00 1.00 1.00 0.50
Sc: Scott-----	100	Very limited Shrink-swell Ponding Depth to saturated zone Frost action	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 0.28 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
UaC: Uly-----	100	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
UaD: Uly-----	100	Somewhat limited Frost action Slope	0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
VaF: Valentine-----	100	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.67
VhD: Valentine-----	65	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.67
Hersh-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Wann-----	100	Very limited Frost action	1.00	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	
Wb: Wann-----	100	Very limited Frost action	1.00	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Not limited	

CONSTRUCTION MATERIALS
Franklin County, Nebraska

Construction Materials

These tables give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated good, fair, or poor as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a probable or improbable source of sand and gravel. A rating of probable means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the first table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Br: Hobbs-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bu: Butler-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CaF: Campus-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CnF: Canyon-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Campus-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CoD2: Coly-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Uly-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
CoF: Coly-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Uly-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
De: Detroit-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fm: Fillmore-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Gb: Gibbon-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
GcF: Ustorthents-----	100	Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated	
Ha: Hall-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hb: Hall-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hc: Hastings-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HdC: Hersh-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.70
Valentine-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.70
HdD: Hersh-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.70
Valentine-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.70
Hf: Hobbs-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hh: Holdrege-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhB: Holdrege-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhC: Holdrege-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HhD: Holdrege-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HnD2: Holdrege-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Uly-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hr: Hord-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HrB: Hord-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ig: Inavale-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.45 0.98
In: Inavale-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.45 0.98
INT: Aguolls-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Kn: Kenesaw-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
KnB: Kenesaw-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
KnC: Kenesaw-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
KsF: Kipson-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
M-W: Miscellaneous Water-	100	Not rated		Not rated	
Ma: Fluvaquents-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.09 0.09
Mb: Mccook-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.05 0.09
Mc: Mccook-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.05
Mn: Munjor-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.07
Mu: Munjor-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.09
NhF: Nuckolls-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hobbs-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
NmC: Holdrege-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Nuckolls-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
NmD: Holdrege-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Nuckolls-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
NoD2: Holdrege-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Nuckolls-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
NpD: Meadin-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.91
Nuckolls-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ra: Fluvaquents-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.88
RbG: Coly-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
RcF: Canyon-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rx: Roxbury-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sa: Fluvaquents-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.88
Sc: Scott-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
UaC: Uly-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
UaD: Uly-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
VaF: Valentine-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.49
VhD: Valentine-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.49
Hersh-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.70
W: Water-----	100	Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Wa: Wann-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.10
Wb: Wann-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.10

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
Bu: Butler-----	100	Poor Too clayey Low content of organic matter Too acid Water erosion	0.00 0.12 0.99 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.45	Poor Too Clayey Depth to saturated zone	0.00 0.00
CaF: Campus-----	100	Fair Depth to bedrock Carbonate content Droughty	0.16 0.68 0.78	Poor Depth to bedrock	0.00	Fair Depth to bedrock Slope	0.16 0.37
CnF: Canyon-----	75	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Slope	0.00 0.50	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.88
Campus-----	25	Fair Depth to bedrock Carbonate content Droughty	0.16 0.68 0.78	Poor Depth to bedrock	0.00	Fair Depth to bedrock Slope	0.16 0.37
CoD2: Coly-----	60	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
Uly-----	40	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
CoF: Coly-----	60	Fair Low content of organic matter Water erosion	0.88 0.90	Fair Slope	0.50	Poor Slope	0.00
Uly-----	40	Fair Low content of organic matter Water erosion	0.12 0.90	Fair Slope	0.50	Poor Slope	0.00
De: Detroit-----	100	Poor Too clayey Low content of organic matter Water erosion	0.00 0.12 0.99	Fair Shrink-swell	0.88	Poor Too Clayey	0.00
Fm: Fillmore-----	100	Poor Too clayey Too acid Water erosion	0.00 0.99 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.22	Poor Too Clayey Depth to saturated zone	0.00 0.00
Gb: Gibbon-----	100	Poor Too alkaline Low content of organic matter	0.00 0.88	Fair Depth to saturated zone	0.76	Fair Depth to saturated zone	0.76
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Fair Water erosion Too acid	0.90 0.99	Good		Good	
Hb: Hall-----	100	Fair Water erosion Too acid	0.90 0.99	Good		Good	
Hc: Hastings-----	100	Fair Too clayey Low content of organic matter Water erosion	0.05 0.88 0.90	Fair Shrink-swell	0.45	Fair Too Clayey	0.03
HdC: Hersh-----	60	Fair Low content of organic matter	0.12	Good		Good	
Valentine-----	40	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.89	Good		Poor Too sandy	0.00
HdD: Hersh-----	60	Fair Low content of organic matter	0.12	Good		Fair Slope	0.96
Valentine-----	40	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.89	Good		Poor Too sandy Slope	0.00 0.96
Hf: Hobbs-----	100	Fair Low content of organic matter	0.88	Good		Good	
Hh: Holdrege-----	100	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.95
HhB: Holdrege-----	100	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
HhC: Holdrege-----	100	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
HhD: Holdrege-----	100	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HnD2: Holdrege-----	65	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
Uly-----	35	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
Hr: Hord-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
HrB: Hord-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Good		Good	
Ig: Inavale-----	100	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.00 0.12 0.88	Good		Poor Too sandy	0.00
In: Inavale-----	100	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.99	Good		Poor Too sandy	0.00
INT: Aguolls-----	100	Poor Low content of organic matter	0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Kn: Kenesaw-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
KnB: Kenesaw-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
KnC: Kenesaw-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
KsF: Kipson-----	100	Poor Depth to bedrock Carbonate content Droughty Low content of organic matter	0.00 0.00 0.15 0.88	Poor Depth to bedrock Slope	0.00 0.50	Poor Depth to bedrock Carbonate content Slope Rock fragments	0.00 0.00 0.00 0.68
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Ma: Fluvaquents-----	100	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mb: Mccook-----	100	Fair Low content of organic matter Water erosion	0.50 0.90	Good		Good	
Mc: Mccook-----	100	Fair Low content of organic matter Water erosion	0.50 0.90	Good		Good	
Mn: Munyor-----	100	Poor Wind erosion Low content of organic matter	0.00 0.12	Good		Good	
Mu: Munyor-----	100	Fair Low content of organic matter	0.12	Good		Good	
NhF: Nuckolls-----	70	Fair Low content of organic matter Water erosion	0.12 0.90	Fair Slope	0.50	Poor Slope	0.00
Hobbs-----	30	Fair Low content of organic matter	0.88	Good		Good	
NmC: Holdrege-----	50	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
Nuckolls-----	50	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
NmD: Holdrege-----	50	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
Nuckolls-----	50	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
NoD2: Holdrege-----	50	Fair Low content of organic matter Water erosion Too clayey	0.12 0.90 0.95	Good		Fair Too Clayey	0.79
Nuckolls-----	50	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
NpD: Meadin-----	50	Poor Too sandy Low content of organic matter Droughty	0.00 0.12 0.31	Fair Slope	0.50	Poor Too sandy Rock fragments Hard to reclaim Slope	0.00 0.00 0.00 0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Nuckolls-----	50	Fair Low content of organic matter Water erosion	0.12 0.90	Fair Slope	0.50	Poor Slope	0.00
Ra: Fluvaquents-----	100	Poor Droughty Low content of organic matter	0.00 0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
RbG: Coly-----	100	Fair Low content of organic matter Water erosion	0.88 0.90	Poor Slope	0.00	Poor Slope	0.00
RcF: Canyon-----	100	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Slope	0.00 0.08	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.88
Rx: Roxbury-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
Sa: Fluvaquents-----	100	Poor Droughty Low content of organic matter	0.00 0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
Sc: Scott-----	100	Poor Too clayey Water erosion Too acid	0.00 0.90 0.97	Poor Depth to saturated zone Shrink-swell	0.00 0.19	Poor Too Clayey Depth to saturated zone	0.00 0.00
UaC: Uly-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Good	
UaD: Uly-----	100	Fair Low content of organic matter Water erosion	0.12 0.90	Good		Fair Slope	0.96
VaF: Valentine-----	100	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.89	Poor Slope	0.00	Poor Too sandy Slope	0.00 0.00
VhD: Valentine-----	65	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.12 0.26	Fair Slope	0.32	Poor Too sandy Slope	0.00 0.00
Herh-----	35	Fair Low content of organic matter	0.12	Fair Slope	0.32	Poor Slope	0.00

CONSTRUCTION MATERIALS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Wann-----	100	Fair Low content of organic matter Sodium content	0.88 0.97	Fair Depth to saturated zone	0.91	Fair Depth to saturated zone Rock fragments Sodium content	0.91 0.97 0.98
Wb: Wann-----	100	Fair Low content of organic matter Sodium content	0.88 0.97	Fair Depth to saturated zone	0.91	Fair Depth to saturated zone Rock fragments Sodium content	0.91 0.97 0.98

RECREATIONAL INTERPRETATIONS
Franklin County, Nebraska

Recreation

The soils of the survey area are rated in the following tables according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
Bu: Butler-----	100	Very limited Depth to saturated zone Restricted permeability	1.00 0.94	Very limited Depth to saturated zone Restricted permeability	1.00 0.94	Very limited Depth to saturated zone Restricted permeability	1.00 0.94
CaF: Campus-----	100	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Depth to bedrock	1.00 0.84
CnF: Canyon-----	75	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.18
Campus-----	25	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope Depth to bedrock	1.00 0.84
CoD2: Coly-----	60	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
Uly-----	40	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
CoF: Coly-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Uly-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
De: Detroit-----	100	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39
Fm: Fillmore-----	100	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Restricted permeability Depth to saturated zone	1.00 1.00 1.00
Gb: Gibbon-----	100	Somewhat limited Restricted permeability Depth to saturated zone	0.15 0.07	Somewhat limited Restricted permeability Depth to saturated zone	0.15 0.03	Somewhat limited Restricted permeability Depth to saturated zone	0.15 0.07
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Not limited		Not limited		Not limited	
Hb: Hall-----	100	Not limited		Not limited		Not limited	
Hc: Hastings-----	100	Not limited		Not limited		Not limited	
HdC: Hersh-----	60	Not limited		Not limited		Somewhat limited Slope	0.50
Valentine-----	40	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy	0.96	Somewhat limited Too sandy Slope	0.96 0.50
HdD: Hersh-----	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Valentine-----	40	Somewhat limited Too sandy Slope	0.96 0.04	Somewhat limited Too sandy Slope	0.96 0.04	Very limited Slope Too sandy	1.00 0.96
Hf: Hobbs-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Hh: Holdrege-----	100	Not limited		Not limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HhB: Holdrege-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
HhC: Holdrege-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
HhD: Holdrege-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
HnD2: Holdrege-----	65	Not limited		Not limited		Very limited Slope	1.00
Uly-----	35	Not limited		Not limited		Very limited Slope	1.00
Hr: Hord-----	100	Not limited		Not limited		Not limited	
HrB: Hord-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Ig: Inavale-----	100	Very limited Flooding Too sandy	1.00 0.87	Somewhat limited Too sandy	0.87	Somewhat limited Too sandy Slope	0.87 0.00
In: Inavale-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Slope	0.00
INT: Aquolls-----	100	Very limited Depth to saturated zone Restricted permeability Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Restricted permeability Ponding	1.00 1.00 1.00	Very limited Restricted permeability Depth to saturated zone Ponding	1.00 1.00 1.00
Kn: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnB: Kenesaw-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
KnC: Kenesaw-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
KsF: Kipson-----	100	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock Content of large stones Gravel content	1.00 1.00 0.20 0.01
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Ma: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
Mb: Mccook-----	100	Very limited Flooding	1.00	Not limited		Not limited	
Mc: Mccook-----	100	Very limited Flooding	1.00	Not limited		Not limited	
Mn: Munjor-----	100	Very limited Flooding Too sandy	1.00 0.97	Somewhat limited Too sandy	0.97	Somewhat limited Too sandy	0.97
Mu: Munjor-----	100	Very limited Flooding	1.00	Not limited		Not limited	
NhF: Nuckolls-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hobbs-----	30	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
NmC: Holdrege-----	50	Not limited		Not limited		Somewhat limited Slope	0.87
Nuckolls-----	50	Not limited		Not limited		Somewhat limited Slope	0.87
NmD: Holdrege-----	50	Somewhat limited		Somewhat limited		Very limited	

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Nuckolls-----	50	Slope	0.00	Slope	0.00	Slope	1.00
NoD2:		Somewhat limited		Somewhat limited		Very limited	
Holdrege-----	50	Slope	0.00	Slope	0.00	Slope	1.00
Nuckolls-----	50	Not limited		Not limited		Very limited	1.00
NpD:						Slope	
Meadin-----	50	Not limited		Not limited		Very limited	1.00
NpD:						Slope	
Meadin-----	50	Very limited	1.00	Very limited	1.00	Very limited	1.00
Nuckolls-----	50	Slope		Slope		Gravel content	0.22
Ra:						Very limited	
Fluvaquents-----	100	Slope	1.00	Slope	1.00	Slope	1.00
RbG:		Very limited		Very limited		Very limited	
Coly-----	100	Depth to	1.00	Depth to	1.00	Depth to	1.00
RcF:		saturated zone		saturated zone		saturated zone	
Canyon-----	100	Flooding	1.00	Too sandy	1.00	Flooding	1.00
		Too sandy	1.00	Flooding	0.40	Too sandy	1.00
RbG:		Very limited		Very limited		Very limited	
Coly-----	100	Slope	1.00	Slope	1.00	Slope	1.00
RcF:							
Canyon-----	100	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
Rx:		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
Roxbury-----	100	Dusty	0.50	Dusty	0.50	Dusty	0.50
Sa:						Gravel content	0.18
Fluvaquents-----	100	Not limited		Not limited		Not limited	
Rx:							
Roxbury-----	100	Very limited		Very limited		Very limited	
Sa:		Depth to	1.00	Depth to	1.00	Depth to	1.00
Fluvaquents-----	100	saturated zone		saturated zone		saturated zone	
		Flooding	1.00	Too sandy	1.00	Flooding	1.00
Sc:		Too sandy	1.00	Flooding	0.40	Too sandy	1.00
Scott-----	100	Very limited		Very limited		Very limited	
		Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone				saturated zone	
		Ponding	1.00	Depth to	1.00	Ponding	1.00
				saturated zone			
		Restricted	1.00	Restricted	1.00	Restricted	1.00
		permeability		permeability		permeability	
UaC:							
Uly-----	100	Not limited		Not limited		Somewhat limited	
UaD:						Slope	0.87
Uly-----	100	Somewhat limited	0.04	Somewhat limited	0.04	Very limited	1.00
VaF:		Slope		Slope		Slope	
Valentine-----	100	Very limited	1.00	Very limited	1.00	Very limited	1.00
		Slope	0.87	Slope	0.87	Slope	0.87
		Too sandy		Too sandy		Too sandy	
VhD:							
Valentine-----	65	Very limited	1.00	Very limited	1.00	Very limited	1.00
		Slope	0.87	Slope	0.87	Slope	0.87
		Too sandy		Too sandy		Too sandy	
Hersh-----	35	Very limited	1.00	Very limited	1.00	Very limited	1.00
		Slope		Slope		Slope	
W:							
Water-----	100	Not rated		Not rated		Not rated	
Wa:							
Wann-----	100	Not limited		Not limited		Not limited	
Wb:							
Wann-----	100	Not limited		Not limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
Bu: Butler-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
CaF: Campus-----	100	Not limited		Somewhat limited Depth to bedrock Slope	0.84 0.63
CnF: Canyon-----	75	Somewhat limited Dusty Slope	0.50 0.50	Very limited Depth to bedrock Slope	1.00 1.00
Campus-----	25	Not limited		Droughty Somewhat limited Depth to bedrock Slope	0.72 0.84 0.63
CoD2: Coly-----	60	Not limited		Somewhat limited Slope	0.00
Uly-----	40	Not limited		Somewhat limited Slope	0.00
CoF: Coly-----	60	Somewhat limited Slope	0.50	Very limited Slope	1.00
Uly-----	40	Somewhat limited Slope	0.50	Very limited Slope	1.00
De: Detroit-----	100	Not limited		Not limited	
Fm: Fillmore-----	100	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Gb: Gibbon-----	100	Not limited		Somewhat limited Depth to saturated zone	0.03
GcF: Ustorthents-----	100	Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated	
Ha: Hall-----	100	Not limited		Not limited	
Hb: Hall-----	100	Not limited		Not limited	
Hc: Hastings-----	100	Not limited		Not limited	
HdC: Hersh-----	60	Not limited		Not limited	
Valentine-----	40	Somewhat limited Too sandy	0.96	Somewhat limited Droughty	0.67
HdD: Hersh-----	60	Not limited		Somewhat limited Slope	0.04
Valentine-----	40	Somewhat limited Too sandy	0.96	Somewhat limited Droughty Slope	0.67 0.04
Hf: Hobbs-----	100	Not limited		Somewhat limited Flooding	0.60
Hh: Holdrege-----	100	Not limited		Not limited	
HhB: Holdrege-----	100	Not limited		Not limited	
HhC: Holdrege-----	100	Not limited		Not limited	
HhD: Holdrege-----	100	Not limited		Somewhat limited Slope	0.00

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
HnD2:					
Holdrege-----	65	Not limited		Not limited	
Uly-----	35	Not limited		Not limited	
Hr:					
Hord-----	100	Not limited		Not limited	
HrB:					
Hord-----	100	Not limited		Not limited	
Ig:					
Inavale-----	100	Somewhat limited Too sandy	0.87	Somewhat limited Droughty	0.09
In:					
Inavale-----	100	Not limited		Not limited	
INT:					
Aquolls-----	100	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Kn:					
Kenesaw-----	100	Not limited		Not limited	
KnB:					
Kenesaw-----	100	Not limited		Not limited	
KnC:					
Kenesaw-----	100	Not limited		Not limited	
KsF:					
Kipson-----	100	Somewhat limited Slope	0.50	Very limited Depth to bedrock Slope Carbonate content Content of large stones Droughty	1.00 1.00 1.00 0.20 0.02
M-W:					
Miscellaneous Water-	100	Not rated		Not rated	
Ma:					
Fluvaquents-----	100	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone Droughty	1.00 1.00 0.00
Mb:					
Mccook-----	100	Not limited		Not limited	
Mc:					
Mccook-----	100	Not limited		Not limited	
Mn:					
Munjor-----	100	Somewhat limited Too sandy	0.97	Not limited	
Mu:					
Munjor-----	100	Not limited		Not limited	
NhF:					
Nuckolls-----	70	Somewhat limited Slope	0.50	Very limited Slope	1.00
Hobbs-----	30	Not limited		Somewhat limited Flooding	0.60
NmC:					
Holdrege-----	50	Not limited		Not limited	
Nuckolls-----	50	Not limited		Not limited	
NmD:					
Holdrege-----	50	Not limited		Somewhat limited Slope	0.00
Nuckolls-----	50	Not limited		Somewhat limited Slope	0.00
NoD2:					
Holdrege-----	50	Not limited		Not limited	
Nuckolls-----	50	Not limited		Not limited	
NpD:					
Meadin-----	50	Somewhat limited Slope	0.50	Very limited Slope Droughty	1.00 0.23
Nuckolls-----	50	Somewhat limited Slope	0.50	Very limited Slope	1.00
Ra:					
Fluvaquents-----	100	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Flooding Depth to saturated zone Droughty Too sandy	1.00 1.00 1.00 0.50

RECREATIONAL INTERPRETATIONS--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RbG: Coly-----	100	Very limited Slope	1.00	Very limited Slope	1.00
RcF: Canyon-----	100	Somewhat limited Slope Dusty	0.92 0.50	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.72
Rx: Roxbury-----	100	Not limited		Not limited	
Sa: Fluvaquents-----	100	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Flooding Depth to saturated zone Droughty Too sandy	1.00 1.00 1.00 0.50
Sc: Scott-----	100	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
UaC: Uly-----	100	Not limited		Not limited	
UaD: Uly-----	100	Not limited		Somewhat limited Slope	0.04
VaF: Valentine-----	100	Very limited Slope Too sandy	1.00 0.87	Very limited Slope Droughty	1.00 0.67
VhD: Valentine-----	65	Somewhat limited Too sandy Slope	0.87 0.68	Very limited Slope Droughty	1.00 0.67
Hersh-----	35	Somewhat limited Slope	0.68	Very limited Slope	1.00
W: Water-----	100	Not rated		Not rated	
Wa: Wann-----	100	Not limited		Not limited	
Wb: Wann-----	100	Not limited		Not limited	

WILDLIFE INTERPRETATIONS
Franklin County, Nebraska

Use and Explanation of Wildlife Interpretations

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the development of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, water, and living space. If any one of these elements is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area. If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In the Wildlife Interpretations table, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

Suitability Ratings

The potential of the soil is rated good, fair, poor, or very poor.

Good - means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose.

Fair - means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results.

Poor - means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and requires intensive effort.

Very Poor - means that limitations are very severe for the designated element or kind of wildlife habitat. Habitat is difficult to create, improve, or maintain in most places, and management is difficult and requires intensive effort.

Description of Wildlife Habitat Elements

Openland habitat consists of croplands, pastures, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kind of wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, killdeer, cottontail rabbit, red fox, and coyote.

Woodland habitat consists of hardwood or conifers, or a mixture of these and associated grasses, legumes and wild herbaceous plants. Examples of wildlife attracted to this habitat are wild turkey, thrushes, woodpeckers, owl, tree squirrels, raccoon, and deer.

Wetland habitat consists of water-tolerant plants in open, marshy or swampy, shallow water areas. Examples of wildlife attracted to this habitat are ducks, geese, herons, bitterns, rails, kingfishers, shorebirds, muskrat, mink, and beaver.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are fragrant sumac, chokecherry, American plum, sand plum, and gorden currant.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, saltgrass, cordgrass, rushes, sedges, and cattails.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, red fox and coyote.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Habitat for rangeland wildlife consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to rangeland include antelope, deer, cottontail rabbit, prairie chicken, meadowlark, quail, and pheasant.

WILDLIFE INTERPRETATIONS
Franklin County, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
Br: HOBBS-----	Poor	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
Bu: BUTLER-----	Good	Good	Good	---	Good	Good	Fair	Fair	Good	---	Fair	Good
CaF: CAMPUS-----	Poor	Fair	Good	---	---	Poor	Very poor	Very poor	Fair	---	Very poor	Fair
CnF: CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor	Poor
CAMPUS-----	Poor	Fair	Good	---	---	Poor	Very poor	Very poor	Fair	---	Very poor	Fair
CoD2: COLY-----	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
ULY-----	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Good
CoF: COLY-----	Poor	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
ULY-----	Poor	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Poor	Good	Very poor	Fair
De: DETROIT-----	Good	Good	Good	---	---	Good	Good	Good	Good	---	Good	Good
Fm: FILLMORE-----	Fair	Good	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Good	Fair
Gb: GIBBON-----	Good	Good	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
GcF: USTORTHERTS-----	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
GP: PITS-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Fair	Very poor	Very poor	Poor	Poor
Ha: HALL-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
Hb: HALL-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
Hc: HASTINGS-----	Good	Good	Good	Good	Good	Good	Very poor	Poor	Good	Good	Very poor	Good
HdC: HERSH-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
VALENTINE-----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor	Fair
HdD: HERSH-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
VALENTINE-----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor	Fair
Hf: HOBBS-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good
Hh: HOLDREGE-----	Good	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Good	Good	Very poor	Fair

WILDLIFE INTERPRETATIONS--Continued
Franklin County, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
HhB: HOLDREGE-----	Good	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Good	Good	Very poor	Fair
HhC: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
HhD: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
HnD2: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
ULY-----	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Good
Hr: HORD-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
HrB: HORD-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
Ig: INVALE-----	Fair	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor	Good
In: INVALE-----	Fair	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor	Good
INT: AQUOLLS-----	---	---	---	---	---	---	---	---	---	---	---	---
Kn: KENESAW-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
KnB: KENESAW-----	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor	Good
KnC: KENESAW-----	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Good
KsF: KIPSON-----	Poor	Fair	Fair	---	---	Poor	Very poor	Very poor	Fair	---	Very poor	Poor
M-W: MISCELLANEOUS WATER-----	---	---	---	---	---	---	---	---	---	---	---	---
Ma: FLUVAQUENTS----	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good	Very poor
Mb: MCCOOK-----	Good	Good	Good	Good	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
Mc: MCCOOK-----	Good	Good	Good	Good	Fair	Good	Very poor	Very poor	Good	Fair	Very poor	Good
Mn: MUNJOR-----	Fair	Fair	Good	Fair	Fair	Good	Very poor	Very poor	Fair	Fair	Very poor	Good
Mu: MUNJOR-----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
NhF: NUCKOLLS-----	Poor	Fair	Fair	---	Fair	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
HOBBS-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good

WILDLIFE INTERPRETATIONS--Continued
Franklin County, Nebraska

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
NmC: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
NUCKOLLS-----	Fair	Good	Good	---	Good	Good	Very poor	Very poor	Good	---	Very poor	Good
NmD: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
NUCKOLLS-----	Fair	Good	Good	---	Good	Good	Very poor	Very poor	Good	---	Very poor	Good
NoD2: HOLDREGE-----	Fair	Good	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Fair
NUCKOLLS-----	Fair	Good	Good	---	Good	Good	Very poor	Very poor	Good	---	Very poor	Good
NpD: MEADIN-----	Very poor	Poor	Fair	Poor	Poor	Fair	Very poor	Very poor	Poor	Poor	Very poor	Fair
NUCKOLLS-----	Poor	Fair	Fair	---	Fair	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Ra: FLUVAQUENTS-----	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good	Very poor
RbG: COLY-----	Very poor	Very poor	Poor	Poor	Poor	Fair	Very poor	Very poor	Poor	Poor	Very poor	Fair
RcF: CANYON-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor	Poor
Rx: ROXBURY-----	Good	Good	Good	Fair	Fair	Fair	Poor	Fair	Good	Fair	Poor	Fair
Sa: FLUVAQUENTS-----	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good	Very poor
Sc: SCOTT-----	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good	Fair
UaC: ULY-----	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Good
UaD: ULY-----	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor	Good
VaF: VALENTINE-----	Very poor	Very poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor	Fair
VhD: VALENTINE-----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor	Fair
HERSH-----	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor	Fair
W: WATER-----	---	---	---	---	---	---	---	---	---	---	---	---
Wa: WANN-----	Good	Good	Good	Good	Fair	Good	Poor	Fair	Good	Good	Fair	Good
Wb: WANN-----	Good	Good	Good	Good	Fair	Good	Poor	Fair	Good	Good	Fair	Good

YIELDS PER ACRE OF PASTURE AND HAYLAND
Franklin County, Nebraska

Use and Explanation of Pastureland and Hayland Interpretations

This subsection provides information concerning the suitability of soils for the production of pasture and hayland. This subsection may contain pasture and hayland suitability groupings, land capability and yield estimates, yield estimates for individual grasses or legumes, or other information pertaining to the production of forage.

Pasture and Hayland Suitability Groupings

Soils are placed in pasture and hayland groups according to their suitability for the production of forage. The soils in each group are enough alike to be suited to the same grasses or legumes, to have similar limitations and hazards, to require similar management, and to have similar productivity and other responses to management. Thus, the pasture and hayland suitability group is a convenient way of grouping the soils for their management. If used, these groupings are identified and described in other reports in the subsection.

Yield Estimates

The average yields per acre that can be expected of the principal pasture or hayland crops, under a high level of management, are presented in this subsection. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall or other climatic factors. The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control. Proper grazing helps plants maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation are also important management practices.

The Pasture and Hayland table show yield estimates in tons per acre and animal unit months for pasture and hayland groups. An animal unit month is the amount of forage required by one animal unit (AU) for 30 days. On animal unit (AU) is one (1000 pound) mature cow and a calf up to weaning age (usually six months of age) or their equivalent. The Natural Resources Conservation Service uses 900 pounds of air dry forage as the amount needed to meet this requirement. To maintain a healthy and vigorous plant community, the degree of use should never be greater than 50 percent. Therefore only 25 percent of the total biomass grown is considered consumed by the grazing animal. Animal Unit Months can be converted to air dry pounds per acre production by multiplying the AUM by 30 days, then by 30 pounds per day, and then by four. This figure is the amount of total forage production.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil in the Nontechnical Description section. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
Br: Hobbs-----	6w	---	---	---
Bu: Butler-----	2w	2w	3.50	6.00
CaF: Campus-----	6e	---	---	---
CnF: Canyon-----	6s	---	---	---
Campus-----	6e	---	---	---
CoD2: Coly-----	4e	4e	1.70	5.00
Uly-----	4e	4e	1.70	5.00
CoF: Coly-----	6e	---	---	---
Uly-----	6e	---	---	---
De: Detroit-----	2c	1	3.10	6.00
Fm: Fillmore-----	3w	4w	2.00	---
Gb: Gibbon-----	2w	2w	4.50	5.50
GcF: Ustorthents-----	7s	---	---	---
GP: Pits-----	8s	---	---	---
Ha: Hall-----	2c	1	3.60	6.50
Hb: Hall-----	2c	1	3.50	6.50
Hc: Hastings-----	2c	1	3.30	6.50
HdC: Hersh-----	3e	3e	2.20	5.00
Valentine-----	6e	4e	2.20	5.00
HdD: Hersh-----	4e	4e	1.30	4.00
Valentine-----	6e	4e	1.30	4.00
Hf: Hobbs-----	2w	2w	5.20	6.00
Hh: Holdrege-----	2c	1	3.30	6.50
HhB: Holdrege-----	2e	2e	3.00	6.20
HhC: Holdrege-----	3e	3e	2.70	5.80
HhD: Holdrege-----	4e	4e	2.20	5.00
HnD2: Holdrege-----	4e	4e	2.00	5.00
Uly-----	4e	4e	2.00	5.00
Hr: Hord-----	2c	1	4.70	6.50

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
HrB: Hord-----	2e	2e	3.40	6.20
Ig: Inavale-----	4e	3e	1.60	4.00
In: Inavale-----	3e	3e	2.00	4.50
INT: Aguolls-----	5w	---	---	---
Kn: Kenesaw-----	2c	1	3.00	6.10
KnB: Kenesaw-----	2e	2e	3.10	6.00
KnC: Kenesaw-----	3e	3e	2.50	5.70
KsF: Kipson-----	6e	---	---	---
M-W: Miscellaneous Water-----	---	---	---	---
Ma: Fluvaquents-----	8w	---	---	---
Mb: Mccook-----	2e	2e	3.60	6.20
Mc: Mccook-----	1	1	4.20	6.50
Mn: Munjor-----	3e	3e	2.30	5.00
Mu: Munjor-----	2e	2e	3.40	6.00
NhF: Nuckolls-----	6e	---	---	---
Hobbs-----	2w	2w	---	---
NmC: Holdrege-----	3e	3e	2.50	5.70
Nuckolls-----	3e	3e	2.50	5.70
NmD: Holdrege-----	4e	4e	2.10	5.00
Nuckolls-----	4e	4e	2.10	5.00
NoD2: Holdrege-----	4e	4e	1.80	5.00
Nuckolls-----	4e	4e	1.80	5.00
NpD: Meadin-----	6s	---	---	---
Nuckolls-----	6e	---	---	---
Ra: Fluvaquents-----	8w	---	---	---
RbG: Coly-----	7e	---	---	---
RcF: Canyon-----	6s	---	---	---
Rx: Roxbury-----	1	1	4.20	6.50

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay	
	N	I	N	I
			Tons	Tons
Sa: Fluvaquents-----	8w	---	---	---
Sc: Scott-----	4w	---	---	---
UaC: Uly-----	3e	3e	2.60	5.70
UaD: Uly-----	4e	4e	2.10	4.80
VaF: Valentine-----	7e	---	---	---
VhD: Valentine-----	6e	---	---	---
Hersh-----	6e	---	---	---
W: Water-----	---	---	---	---
Wa: Wann-----	2w	2w	4.40	5.80
Wb: Wann-----	2w	2w	4.70	6.00

CONSERVATION TREE AND SHRUB MANAGEMENT
Franklin County, Nebraska

A Conservation Tree/Shrub Suitability Group (CTSG), formerly Windbreak Suitability Group, is a physiographic unit or area having similar climatic and edaphic characteristics that control the selection and height growth of trees and shrubs.

In this table, the Conservation Tree and Shrub Grouping is expressed as a group index number. The group index for Conservation Tree and Shrub groups (CTSG) are a guide for species best suited for different kinds of soil and for prediction height, growth, and effectiveness. The groupings can be used when selection woody plants for windbreaks, wildlife plantings riparian buffers, reforestation, other environmental plantings, recreation, landscaping, wetland restoration or enhancement and critical area plantings. CTSG's are developed to assure satisfactory species selection and adaptation to specific conditions of soil, climate and physiography. CTSG's are a guide for selection species best suited for different kinds of soil and prediction height growth and effectiveness.

All soil series mapped in the state have been placed in 10 groups of similar soil characteristics. Groups 1, 2, 3, 4, 6, and 9 are further divided into subgroups. In addition, all groups provide information by Major Land Resource Areas.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters a tree or shrub may be well or poorly suited because of soil characteristics. Each tree or shrub also has definable potentials of height growth depending on the factors just mentioned. Accurate definitions of potential heights are necessary for proper windbreak planning and design.

Windbreaks protect livestock, buildings, roads and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low-growing and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not grow trees originally. Knowledge of how trees perform on such land can be gained only by observing and recording their performance where trees have been planted and survived. The problem is compounded by the fact that many favorite windbreak species are not indigenous to the areas in which they are planted.

The Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups shows the adapted species listing for each group index number. Showing the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates are based on measurements and observation of established plantings that have been given adequate care. This information should be used to determine the placement of a windbreak, the area protected and the arrangement of species.

A number of attributes are included in the CTSG species tables for each group number found in this section of the Field Office Technical Guide. These attributes were rated subjectively and assigned a relative value to further assist those unfamiliar with individual species characteristics or desirability for the intended use. Definitions and explanations can be found. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery. See part 537 of the National Forestry Manual for additional information.

In the Tree and Shrub Management table interpretive ratings are given for various aspects of forest and conservation tree and shrub management. Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. Well suited indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. Moderately well suited indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable and fair performance can be expected. Some maintenance is needed. Poorly suited indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. Unsited indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest and conservation tree and shrub management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet. Also, in the Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups.

Ratings in the columns suitability for hand planting and suitability for mechanical planting are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column suitability for mechanical site preparation (surface) are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 1-foot is considered in the ratings.

Ratings in the column suitability for mechanical site preparation (deep) are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column potential for seedling mortality are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality. See the National Forestry Manual, Subpart B for criteria used in rating management concerns. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

CONSERVATION TREE AND SHRUB MANAGEMENT
Franklin County,
Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Br: Hobbs-----		Well suited	Well suited	Well suited	Well suited	Low
Bu: Butler-----		Well suited	Well suited	Well suited	Well suited	High Wetness
CaF: Campus-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
CnF: Canyon-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
Campus-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
CoD2: Coly-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Uly-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
CoF: Coly-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Uly-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
De: Detroit-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Fm: Fillmore-----		Well suited	Well suited	Well suited	Well suited	High Wetness
Gb: Gibbon-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Moderate Soil reaction
GcF: Ustorthents-----		Not rated	Not rated	Not rated	Not rated	Not rated
GP: Pits-----		Not rated	Not rated	Not rated	Not rated	Not rated
Ha: Hall-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Hb: Hall-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Hc: Hastings-----		Moderately suited Stickiness	Moderately suited Stickiness	Poorly suited Stickiness	Well suited	Low
HdC: Hersh-----		Well suited	Well suited	Well suited	Well suited	Low
Valentine-----		Moderately suited Sandiness	Moderately suited Sandiness	Well suited	Well suited	Low
HdD: Hersh-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Valentine-----		Moderately suited Sandiness	Moderately suited Slope Sandiness	Well suited	Well suited	Low
Hf: Hobbs-----		Well suited	Well suited	Well suited	Well suited	Low
Hh: Holdrege-----		Well suited	Well suited	Well suited	Well suited	Low
HhB: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low

CONSERVATION TREE AND SHRUB MANAGEMENT
Franklin County,
Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
HhC: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness Slope	Well suited	Well suited	Low
HhD: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness Slope	Well suited	Well suited	Low
HnD2: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness Slope	Well suited	Well suited	Low
Uly-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
Hr: Hord-----		Well suited	Well suited	Well suited	Well suited	Low
HrB: Hord-----		Well suited	Well suited	Well suited	Well suited	Low
Ig: Inavale-----		Well suited	Well suited	Well suited	Well suited	Low
In: Inavale-----		Well suited	Well suited	Well suited	Well suited	Low
INT: Aquolls-----		Well suited	Well suited	Well suited	Well suited	High Wetness Soil reaction
Kn: Kenesaw-----		Well suited	Well suited	Well suited	Well suited	Low
KnB: Kenesaw-----		Well suited	Well suited	Well suited	Well suited	Low
KnC: Kenesaw-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
KsF: Kipson-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	High Lime Soil reaction
M-W: Miscellaneous Water-		Not rated	Not rated	Not rated	Not rated	Not rated
Ma: Fluvaquents-----		Unsuited Wetness	Poorly suited Wetness	Unsuited Wetness	Unsuited Wetness	High Wetness
Mb: Mccook-----		Well suited	Well suited	Well suited	Well suited	Low
Mc: Mccook-----		Well suited	Well suited	Well suited	Well suited	Low
Mn: Munjor-----		Well suited	Well suited	Well suited	Well suited	Low
Mu: Munjor-----		Well suited	Well suited	Well suited	Well suited	Low
NhF: Nuckolls-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Hobbs-----		Well suited	Well suited	Well suited	Well suited	Low
NmC: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness Slope	Well suited	Well suited	Low
Nuckolls-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
NmD: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness Slope	Well suited	Well suited	Low
Nuckolls-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
NoD2: Holdrege-----		Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low

CONSERVATION TREE AND SHRUB MANAGEMENT
Franklin County,
Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Nuckolls-----		Well suited	Slope Moderately suited Slope	Well suited	Well suited	Low
NpD: Meadin-----		Well suited	Poorly suited Slope Rock fragments	Poorly suited Slope	Poorly suited Slope	Low
Nuckolls-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
Ra: Fluvaquents-----		Unsuited Wetness Rock fragments	Poorly suited Rock fragments Wetness	Unsuited Wetness Rock fragments	Unsuited Wetness	High Wetness
RbG: Coly-----		Moderately suited Slope	Unsuited Slope	Unsuited Slope	Unsuited Slope	Low
RcF: Canyon-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Moderate Soil reaction
Rx: Roxbury-----		Well suited	Well suited	Well suited	Well suited	Low
Sa: Fluvaquents-----		Unsuited Wetness Rock fragments	Poorly suited Rock fragments Wetness	Unsuited Wetness Rock fragments	Unsuited Wetness	High Wetness
Sc: Scott-----		Poorly suited Stickiness	Poorly suited Stickiness	Poorly suited Stickiness	Well suited	High Wetness
UaC: Uly-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
UaD: Uly-----		Well suited	Moderately suited Slope	Well suited	Well suited	Low
VaF: Valentine-----		Moderately suited Sandiness Slope	Unsuited Slope Sandiness	Unsuited Slope	Unsuited Slope	Low
VhD: Valentine-----		Moderately suited Sandiness	Poorly suited Slope Sandiness	Poorly suited Slope	Poorly suited Slope	Low
Herh-----		Well suited	Poorly suited Slope	Poorly suited Slope	Poorly suited Slope	Low
W: Water-----		Not rated	Not rated	Not rated	Not rated	Not rated
Wa: Wann-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Wb: Wann-----		Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction

ENGINEERING INDEX PROPERTIES
Franklin County, Nebraska

Engineering Index Properties table gives the engineering classifications and the range of index properties for the layers of each soil in the survey area. Depth to the upper and lower boundaries of each layer is indicated. Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. Loam, for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, gravelly. Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998). The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection. If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in Engineering Index Properties table.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

ENGINEERING INDEX PROPERTIES--Continued
Franklin County, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
Br: Hobbs-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	7-34	Stratified silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
Bu: Butler-----	34-80	Silt loam	CL, CL-ML, MH	A-4, A-6, A-7	0	0	100	100	95-100	80-100	25-55	5-25
	0-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	14-31	Clay	CH	A-7	0	0	100	100	100	95-100	50-70	30-45
	31-41	Silty clay loam	CH, CL	A-7, A-6	0	0	100	100	100	95-100	35-60	15-35
	41-60	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
CaF: Campus-----	0-16	Loam	ML, CL-ML, CL	A-4, A-6	0	0	100	95-100	80-100	55-90	20-40	3-20
	16-25	Loam	SC, ML, CL, SM	A-4, A-6, A-7	0	0	90-100	70-100	65-85	40-80	33-45	8-20
	25-60	Unweathered bedrock			---	---	---	---	---	---	0-14	---
CnF: Canyon-----	0-9	Loam	CL-ML, CL, ML	A-4	0	0-5	90-95	75-95	50-95	50-75	15-30	2-10
	9-14	Gravelly loam	GM, ML, SC, SM	A-4	0	0-5	60-95	50-95	45-95	35-75	15-25	NP-10
	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
Campus-----	0-16	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	80-100	55-90	20-40	3-20
	16-25	Loam	SM, SC, ML, CL	A-4, A-6, A-7	0	0	90-100	70-100	65-85	40-80	33-45	8-20
	25-60	Unweathered bedrock			---	---	---	---	---	---	0-14	---
CoD2: Coly-----	0-4	Silt loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	100	100	85-100	85-100	20-45	2-20
	4-80	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	85-100	20-40	2-15
Uly-----	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	20-40	2-20
	8-26	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
	26-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
CoF: Coly-----	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	85-100	85-100	20-45	2-20
	5-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	85-100	20-40	2-15
Uly-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	20-40	2-20
	9-26	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
	26-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
De: Detroit-----	0-15	Silt loam	CL	A-6	0	0	100	100	95-100	85-95	35-40	15-25
	15-35	Silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-60	30-40
	35-60	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-50	15-30
Fm: Fillmore-----	0-16	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	2-20
	16-34	Silty clay	CH	A-7	0	0	100	100	100	95-100	50-75	30-45
	34-46	Silty clay loam	CL, CH	A-6, A-7	0	0	100	100	100	95-100	35-60	20-40
	46-60	Silt loam	CH, CL	A-6, A-7	0	0	100	100	100	95-100	25-75	10-45
Gb: Gibbon-----	0-7	Silt loam	ML, CL-ML, CL	A-4	0	0	100	100	85-100	70-90	20-30	2-10
	7-15	Silty clay loam	CL	A-7	0	0	100	100	95-100	85-95	40-45	20-25
	15-60	Stratified very fine sandy loam to silty clay loam	SC, ML, CL- ML, SM	A-4, A-6	0	0	100	100	75-95	35-95	15-35	NP-15
GcF: Ustorthents----	0-6	Gravelly sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-90	50-80	25-60	5-20	15-20	NP-5
	6-60	Gravelly coarse sand	SM, SP-SM, GP-GM, GP	A-1	0	0-5	25-90	10-75	0-50	0-15	15-20	NP-5
GP: Pits-----	0-60	Gravelly sand	SP-SM, SP, SM, GP-GM	A-1, A-2, A-3	---	0-5	45-100	40-100	0-80	0-40	0-14	NP
Ha: Hall-----	0-6	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	3-18
	6-32	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	32-38	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	38-60	Stratified fine sandy loam to loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	75-100	20-40	5-20
Hb: Hall-----	0-6	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	3-18
	6-32	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	32-38	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	38-60	Stratified fine sandy loam to loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	75-100	20-40	5-20
Hc: Hastings-----	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	9-37	Silty clay loam	CL, CH	A-7	0	0	100	100	100	95-100	40-65	20-40
	37-60	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-50	10-25

ENGINEERING INDEX PROPERTIES--Continued
Franklin County, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
HdC: Hersh-----	0-8	Fine sandy loam	SC-SM, SM, SC, ML	A-4	0	0	100	100	70-85	40-55	15-25	NP-10
	8-16	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	80-100	40-65	15-20	NP-5
	16-40	Fine sandy loam	ML, SM	A-4	0	0	100	100	90-100	40-65	15-20	NP-5
Valentine-----	40-60	Loamy fine sand	SM	A-2	0	0	100	100	50-80	10-35	15-20	NP-5
	0-5	Loamy fine sand	SP-SM, SP, SM	A-2, A-3	0	0	100	100	95-100	2-35	15-20	NP-5
	5-9	Loamy fine sand	SM, SP-SM, SP	A-2, A-3	0	0	100	100	90-100	2-35	15-20	NP-5
	9-80	Fine sand	SP-SM, SP, SM	A-2, A-3	0	0	100	100	70-100	2-25	15-20	NP-5
HdD: Hersh-----	0-8	Fine sandy loam	SC, SM, ML, SC-SM	A-4	0	0	100	100	70-85	40-55	15-25	NP-10
	8-16	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	80-100	40-65	15-20	NP-5
	16-40	Fine sandy loam	ML, SM	A-4	0	0	100	100	90-100	40-65	15-20	NP-5
Valentine-----	40-60	Loamy fine sand	SM	A-2	0	0	100	100	50-80	10-35	15-20	NP-5
	0-5	Loamy fine sand	SP, SP-SM, SM	A-2, A-3	0	0	100	100	95-100	2-35	15-20	NP-5
	5-9	Loamy fine sand	SP, SP-SM, SM	A-2, A-3	0	0	100	100	90-100	2-35	15-20	NP-5
	9-80	Fine sand	SP-SM, SP, SM	A-2, A-3	0	0	100	100	70-100	2-25	15-20	NP-5
Hf: Hobbs-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	8-45	Stratified silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	45-60	Silt loam	CL, CL-ML, MH	A-4, A-6, A-7	0	0	100	100	95-100	80-100	25-55	5-25
Hh: Holdrege-----	0-13	Silt loam	CL-ML, ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	13-26	Silty clay loam	CL, CH	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	26-34	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	34-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
HhB: Holdrege-----	0-11	Silt loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	11-24	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	24-32	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	32-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
HhC: Holdrege-----	0-9	Silt loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	9-22	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	22-30	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	30-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
HhD: Holdrege-----	0-8	Silt loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	8-22	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	22-30	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	30-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
HnD2: Holdrege-----	0-8	Silt loam	CL-ML, ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	8-21	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	21-29	Silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	29-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
Uly-----	0-7	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	20-40	2-20
	7-20	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
	20-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
Hr: Hord-----	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	3-18
	16-41	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	85-100	25-40	8-23
	41-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	85-100	25-40	6-21
HrB: Hord-----	0-14	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	20-35	3-18
	14-39	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	85-100	25-40	8-23
	39-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	85-100	25-40	6-21
Ig: Inavale-----	0-8	Loamy sand	SP-SM, SM, SC-SM	A-2, A-3	0	0	100	100	85-95	5-35	15-25	NP-5
	8-24	Loamy sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	90-100	65-85	5-30	15-25	NP-5
	24-60	Fine sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	100	70-90	5-30	15-25	NP-5
In: Inavale-----	0-10	Fine sandy loam	CL-ML, ML, SM, SC-SM	A-4	0	0	100	95-100	65-85	35-55	15-20	NP-5
	10-26	Loamy sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	90-100	65-85	5-30	15-20	NP-5
	26-60	Fine sand	SP-SM, SM, SC-SM	A-2, A-3	0	0	100	100	70-90	5-30	15-20	NP-5
INT: Aguolls-----	0-72	Variable			---	---	---	---	---	---	---	---
Kn: Kenesaw-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-35	5-15
	8-20	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-100	18-35	2-13
	20-60	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	80-100	20-35	2-12
KnB: Kenesaw-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-35	5-15
	8-20	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	90-100	85-100	18-35	2-13
	20-60	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	95-100	80-100	20-35	2-12

ENGINEERING INDEX PROPERTIES--Continued
Franklin County, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
KnC: Kenesaw-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-35	5-15
	8-20	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	18-35	2-13
	20-60	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-100	20-35	2-12
KsF: Kipson-----	0-7	Silt loam	CL	A-4, A-6	0	0-25	80-100	75-100	70-100	50-95	25-35	10-15
	7-19	Silt loam	CL	A-6, A-7-6	0	0-25	80-100	75-100	70-100	50-95	30-45	10-20
	19-23	Weathered bedrock			---	---	---	---	---	---	---	---
M-W: Miscellaneous Water-----	---	---	---	---	---	---	---	---	---	---	---	---
Ma: Fluvaquents----	0-60	Sandy loam	SP-SM, SM	A-2, A-3, A-4	0	0	100	100	50-70	5-40	15-25	NP-5
Mb: Mccook-----	0-11	Fine sandy loam	ML, SC-SM, SM, CL-ML	A-4	0	0	100	100	70-85	35-55	15-20	NP-5
	11-80	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	80-100	15-25	NP-10
Mc: Mccook-----	0-21	Silt loam	CL, ML, CL-ML	A-4	0	0	100	100	95-100	60-100	20-35	2-10
	21-60	Very fine sandy loam	ML, CL-ML, CL	A-4	0	0	100	100	95-100	80-100	15-25	NP-10
Mn: Munjor-----	0-9	Loamy fine sand	SM	A-2-4	0	0	100	95-100	55-90	15-30	15-25	NP-7
	9-46	Fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	95-100	85-100	35-65	15-30	3-10
	46-60	Sand	SM, SP-SM	A-2-4, A-3	0	0	98-100	95-100	55-100	5-30	---	NP
Mu: Munjor-----	0-9	Fine sandy loam	ML, CL-ML, SC-SM, SM	A-4	0	0	95-100	90-100	65-95	40-65	15-30	NP-10
	9-46	Sandy loam	CL, ML, SC, SM	A-4, A-6	0	0	95-100	95-100	85-100	35-65	15-28	NP-19
	46-60	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	95-100	55-100	5-30	---	NP
NhF: Nuckolls-----	0-10	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	24-40	2-15
	10-29	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	28-48	10-25
	29-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-95	25-40	5-20
Hobbs-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	8-45	Stratified silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	45-60	Silt loam	MH, CL-ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	80-100	25-55	5-25
NmC: Nuckolls-----	0-10	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	24-40	2-15
	10-29	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	28-48	10-25
	29-60	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	80-95	25-40	5-20
Holdrege-----	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	9-22	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	22-30	Silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	30-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
NmD: Nuckolls-----	0-9	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	24-40	2-15
	9-27	Silt loam	CL	A-7, A-6	0	0	100	100	95-100	85-100	28-48	10-25
	27-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-95	25-40	5-20
Holdrege-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	85-100	20-45	2-20
	8-22	Silty clay loam	CL, CH	A-7, A-6	0	0	100	100	98-100	90-100	30-55	15-35
	22-30	Silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	25-40	9-17
	30-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-40	5-15
NoD2: Nuckolls-----	0-7	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	24-40	2-15
	7-24	Silt loam	CL	A-7, A-6	0	0	100	100	95-100	85-100	28-48	10-25
	24-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-95	25-40	5-20
Holdrege-----	0-8	Silt loam	CL, CL-ML, ML	A-6, A-7, A-4	0	0	100	100	95-100	85-100	20-45	2-20
	8-21	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	98-100	90-100	30-55	15-35
	21-27	Silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	9-17
	27-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
NpD: Nuckolls-----	0-10	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	24-40	2-15
	10-29	Silt loam	CL	A-7, A-6	0	0	100	100	95-100	85-100	28-48	10-25
	29-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	80-95	25-40	5-20
Meadin-----	0-8	Loam	ML	A-4	0	0	85-100	75-95	60-80	50-65	25-35	3-10
	8-14	Gravelly sandy loam	SP-SM, SM, GM, GP-GM	A-3, A-2	0	0	50-90	50-90	50-65	5-35	---	NP
	14-60	Gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	40-80	30-70	15-50	1-10	---	NP
Ra: Fluvaquents----	0-6	Sand	SM, SP-SM	A-2, A-3, A-4	0	0	100	100	50-70	5-40	15-25	NP-5
	6-60	Variable			---	---	---	---	---	---	---	---
RbG: Coly-----	0-4	Silt loam	CL-ML, CL, ML	A-4, A-6, A-7	0	0	100	100	85-100	85-100	20-45	2-20
	4-80	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	85-100	85-100	20-40	2-15
RcF: Canyon-----	0-9	Loam	CL-ML, ML, CL	A-4	0	0-5	90-95	75-95	50-95	50-75	15-30	2-10
	9-16	Loam	SC, SM, ML, GM	A-4	0	0-5	60-95	50-95	45-95	35-75	15-25	NP-10
	16-60	Weathered bedrock			---	---	---	---	---	---	---	---

ENGINEERING INDEX PROPERTIES--Continued
Franklin County, Nebraska

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
Rx: Roxbury-----	In											
	0-14	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	70-90	30-35	10-15
	14-30	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	30-45	10-20
	30-60	Silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	85-100	65-95	30-45	10-20
Sa: Fluvaquents----	0-6	Sand	SM, SP-SM	A-2, A-3, A-4	0	0	100	100	50-70	5-40	15-25	NP-5
	6-60	Variable			---	---	---	---	---	---	---	---
Sc: Scott-----	0-8	Silt loam	CL, ML, CL-ML	A-4, A-6, A-7	0	0	100	100	100	95-100	20-45	2-20
	8-34	Clay	CL, CH	A-7	0	0	100	100	100	95-100	41-75	20-45
	34-46	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	100	95-100	35-60	20-40
	46-80	Silt loam	CL	A-4, A-6, A-7	0	0	100	100	90-100	90-100	25-50	8-24
UaC: Uly-----	0-10	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	20-40	2-20
	10-28	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
	28-60	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
UaD: Uly-----	0-9	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	20-40	2-20
	9-26	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
	26-60	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-40	3-15
VaF: Valentine-----	0-5	Loamy sand	SP-SM, SP, SM	A-2, A-3	0	0	100	100	95-100	2-35	15-20	NP-5
	5-9	Loamy fine sand	SP-SM, SM, SP	A-2, A-3	0	0	100	100	90-100	2-35	15-20	NP-5
	9-80	Fine sand	SP-SM, SM, SP	A-2, A-3	0	0	100	100	70-100	2-25	15-20	NP-5
VhD: Valentine-----	0-6	Loamy sand	SP-SM, SM, SP	A-2, A-3	0	0	100	100	95-100	2-35	15-20	NP-5
	6-9	Loamy fine sand	SM, SP, SP-SM	A-2, A-3	0	0	100	100	90-100	2-35	15-20	NP-5
	9-60	Fine sand	SP-SM, SM, SP	A-2, A-3	0	0	100	100	70-100	2-25	15-20	NP-5
	0-7	Fine sandy loam	SM, ML, SC,	A-4	0	0	100	100	70-85	40-55	15-25	NP-10
			SC-SM									
	7-14	Fine sandy loam	SC-SM, CL-ML,	A-4	0	0	100	100	80-100	40-65	15-20	NP-5
			ML, SM									
	14-40	Fine sandy loam	ML, SM	A-4	0	0	100	100	90-100	40-65	15-20	NP-5
	40-60	Loamy fine sand	SM	A-2	0	0	100	100	50-80	10-35	15-20	NP-5
W: Water-----	---	---	---	---	---	---	---	---	---	---	---	---
Wa: Wann-----	0-11	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	95-100	70-100	30-50	15-25	NP-5
	11-42	Sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	75-100	60-100	20-50	15-25	NP-5
	42-60	Stratified fine sand to sandy clay loam	SM	A-2, A-4	0	0	95-100	95-100	70-100	15-40	15-20	NP-3
Wb: Wann-----	0-11	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	55-80	15-30	2-15
	11-42	Sandy loam	SC-SM, SM	A-2, A-4	0	0	95-100	75-100	60-100	20-50	15-25	NP-5
	42-60	Stratified fine sand to sandy clay loam	SM	A-2, A-4	0	0	95-100	95-100	70-100	15-40	15-20	NP-3

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Physical Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K-sat). The estimates in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in this table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct	K	Kf	T		
Br: Hobbs-----	0-7 7-34 34-80	11 10	68 68	15-27 15-27 15-30	1.20-1.40 1.20-1.40 1.20-1.40	0.60-2.00 0.60-2.00 0.60-2.00	0.21-0.24 0.18-0.20 0.18-0.22	0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.5-1.0 0.5-1.0	.32 .32 .43	.32 .32 .43	5	6	48
Bu: Butler-----	0-14 14-31 31-41 41-60	25 22 7 23	53 28 54 51	18-27 45-55 32-45 20-35	1.20-1.40 1.10-1.20 1.10-1.30 1.20-1.40	0.60-2.00 0.06-0.20 0.20-0.60 0.60-2.00	0.22-0.24 0.11-0.13 0.14-0.20 0.18-0.22	0.0-2.9 9.0-12.0 6.0-8.9 1.0-5.9	2.0-4.0 1.0-2.0 0.5-1.0 0.0-0.5	.37 .37 .37 .37	.37 .37 .37 .37	3	6	48
CaF: Campus-----	0-16 16-25 25-60	42 38	37 36	15-27 18-35 ---	1.25-1.35 1.40-1.60 ---	0.60-2.00 0.60-2.00 0.00-0.00	0.20-0.22 0.15-0.19 0.00-0.00	0.0-2.9 0.0-2.9 ---	1.0-2.0 0.0-0.5 ---	.28 .28 ---	.28 .32 ---	2	4L	86
CnF: Canyon-----	0-9 9-14 14-60	44 43	40 38	12-20 12-25 ---	1.20-1.30 1.30-1.50 ---	0.60-2.00 0.60-2.00 0.20-0.60	0.20-0.22 0.13-0.18 ---	0.0-2.9 0.0-2.9 ---	0.5-1.0 0.5-1.0 ---	.32 .28 ---	.32 .43 ---	2	4L	86
Campus-----	0-16 16-25 25-60	42 38	37 36	15-27 18-35 ---	1.25-1.35 1.40-1.60 ---	0.60-2.00 0.60-2.00 0.00-0.00	0.20-0.22 0.15-0.19 0.00-0.00	0.0-2.9 0.0-2.9 ---	1.0-2.0 0.0-0.5 ---	.28 .28 ---	.28 .32 ---	2	4L	86
CoD2: Coly-----	0-4 4-80	11 11	68 68	18-24 18-24	1.30-1.50 1.30-1.50	0.60-2.00 0.60-2.00	0.20-0.24 0.17-0.22	0.0-2.9 0.0-2.9	1.0-2.0 0.5-1.0	.43 .43	.43 .43	5	4L	86
Uly-----	0-8 8-26 26-60	11 9 10	67 66 68	17-27 20-30 18-27	1.20-1.45 1.25-1.45 1.25-1.45	0.60-2.00 0.60-2.00 0.60-2.00	0.20-0.24 0.18-0.22 0.16-0.20	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.0-0.5	.32 .43 .43	.32 .43 .43	5	6	48
CoF: Coly-----	0-5 5-60	11 11	68 68	18-24 18-24	1.30-1.50 1.30-1.50	0.60-2.00 0.60-2.00	0.20-0.24 0.17-0.22	0.0-2.9 0.0-2.9	1.0-2.0 0.5-1.0	.43 .43	.43 .43	5	4L	86
Uly-----	0-9 9-26 26-60	11 9 10	67 66 68	17-27 20-30 18-27	1.20-1.45 1.25-1.45 1.25-1.45	0.60-2.00 0.60-2.00 0.60-2.00	0.20-0.24 0.18-0.22 0.16-0.20	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.0-0.5	.32 .43 .43	.32 .43 .43	5	6	48
De: Detroit-----	0-15 15-35 35-60	24 8 24	51 52 50	22-27 35-45 18-35	1.25-1.40 1.35-1.50 1.30-1.50	0.60-2.00 0.06-0.20 0.60-2.00	0.22-0.24 0.12-0.18 0.18-0.22	1.0-3.0 6.0-8.9 1.0-5.9	2.0-4.0 1.0-2.0 0.0-0.5	.37 .37 .37	.37 .37 .37	5	6	48
Fm: Fillmore-----	0-16 16-34 34-46 46-60	25 5 7 18	53 45 51 55	18-27 45-55 35-50 18-45	1.30-1.40 1.10-1.30 1.20-1.40 1.30-1.50	0.60-2.00 0.00-0.06 0.20-0.60 0.60-2.00	0.21-0.24 0.11-0.14 0.18-0.20 0.10-0.22	0.0-2.9 9.0-12.0 6.0-8.9 3.0-5.9	2.0-4.0 1.0-2.0 0.5-1.0 0.0-0.5	.37 .37 .37 .43	.37 .37 .37 .43	3	6	48
Gb: Gibbon-----	0-7 7-15 15-60	10 7	68 64	20-25 27-32 15-30	1.40-1.60 1.50-1.60 1.50-1.60	0.60-2.00 0.20-0.60 0.60-2.00	0.21-0.23 0.18-0.20 0.16-0.20	0.0-2.9 3.0-5.9 0.0-2.9	2.0-4.0 0.5-1.0 0.5-1.0	.32 .32 .32	.32 .32 .32	5	4L	86
GcF: Ustorthents--	0-6 6-60	96 92	2 6	0-5 0-2	1.45-1.65 1.65-1.85	19.98-19.98 19.98-19.98	0.02-0.04 0.01-0.02	0.0-2.9 0.0-2.9	0.0-0.5 0.0-0.5	.05 .05	.10 .10	5	8	0
GP: Pits-----	0-60	95	1	0-8	1.70-2.00	6.00-20.00	0.02-0.09	0.0-2.9	0.0-0.5	.10	.17	2	8	0
Ha: Hall-----	0-6 6-32 32-38 38-60	11 7 10	68 65 68	15-27 20-35 15-30 12-30	1.30-1.40 1.30-1.50 1.30-1.40 1.40-1.60	0.60-2.00 0.60-2.00 0.60-2.00 0.57-5.95	0.20-0.24 0.18-0.20 0.18-0.22 0.14-0.20	0.0-2.9 1.0-5.9 3.0-5.9 0.0-2.9	2.0-4.0 1.0-2.0 0.5-1.0 0.0-0.5	.32 .43 .43 .43	.32 .43 .43 .43	5	6	48
Hb: Hall-----	0-6 6-32 32-38 38-60	11 7 10	68 65 68	15-27 20-35 15-30 12-30	1.30-1.40 1.30-1.50 1.30-1.40 1.40-1.60	0.60-2.00 0.60-2.00 0.60-2.00 0.57-5.95	0.20-0.24 0.18-0.20 0.18-0.22 0.14-0.20	0.0-2.9 1.0-5.9 3.0-5.9 0.0-2.9	2.0-4.0 1.0-2.0 0.5-1.0 0.0-0.5	.32 .43 .43 .43	.32 .43 .43 .43	5	6	48
Hc: Hastings-----	0-9 9-37 37-60	26 7 18	54 54 55	15-25 35-42 25-38	1.20-1.40 1.30-1.40 1.20-1.40	0.60-2.00 0.20-0.60 0.60-2.00	0.20-0.23 0.11-0.18 0.18-0.20	0.0-2.9 6.0-8.9 3.0-5.9	2.0-4.0 0.5-1.0 0.0-0.5	.32 .43 .43	.32 .43 .43	5	6	48
HdC: Hersh-----	0-8 8-16 16-40 40-60	66 67 66 87	20 20 20 7	10-18 8-18 10-18 2-10	1.30-1.50 1.30-1.50 1.20-1.50 1.60-1.80	2.00-6.00 2.00-6.00 2.00-6.00 5.95-19.98	0.16-0.18 0.15-0.18 0.15-0.17 0.05-0.10	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-2.0 0.5-1.0 0.0-0.5 0.0-0.5	.24 .24 .24 .15	.24 .24 .24 .15	5	3	86
Valentine----	0-5 5-9 9-80	87 87 96	7 7 1	2-10 2-10 0-6	1.35-1.55 1.55-1.75 1.60-1.80	5.95-19.98 5.95-19.98 5.95-19.98	0.10-0.12 0.09-0.11 0.05-0.07	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.17 .17 .15	.17 .17 .15	5	2	134
HdD: Hersh-----	0-8 8-16 16-40 40-60	66 67 66 87	20 20 20 7	10-18 8-18 10-18 2-10	1.30-1.50 1.30-1.50 1.20-1.50 1.60-1.80	2.00-6.00 2.00-6.00 2.00-6.00 5.95-19.98	0.16-0.18 0.15-0.18 0.15-0.17 0.05-0.10	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-2.0 0.5-1.0 0.0-0.5 0.0-0.5	.24 .24 .24 .15	.24 .24 .24 .15	5	3	86
Valentine----	0-5 5-9 9-80	87 87 96	7 7 1	2-10 2-10 0-6	1.35-1.55 1.55-1.75 1.60-1.80	5.95-19.98 5.95-19.98 5.95-19.98	0.10-0.12 0.09-0.11 0.05-0.07	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.17 .17 .15	.17 .17 .15	5	2	134
Hf: Hobbs-----	0-8 8-45 45-60	11 10	68 68	15-27 15-27 15-30	1.20-1.40 1.20-1.40 1.20-1.40	0.60-2.00 0.60-2.00 0.60-2.00	0.21-0.24 0.18-0.20 0.18-0.22	0.0-2.9 0.0-2.9 0.0-2.9	2.0-4.0 0.5-1.0 0.5-1.0	.32 .32 .43	.32 .32 .43	5	6	48

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
Hh: Holdrege-----	0-13	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	13-26	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	26-34	9	66	20-30	1.30-1.50	0.60-2.00	0.17-0.20	1.0-4.0	0.0-0.5	.43	.43			
	34-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
HhB: Holdrege-----	0-11	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	11-24	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	24-32	9	66	20-30	1.30-1.50	0.60-2.00	0.17-0.20	1.0-4.0	0.0-0.5	.43	.43			
	32-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
HhC: Holdrege-----	0-9	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	9-22	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	22-30	9	66	20-30	1.30-1.50	0.60-2.00	0.17-0.20	1.0-4.0	0.0-0.5	.43	.43			
	30-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
HhD: Holdrege-----	0-8	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	8-22	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	22-30	9	66	20-30	1.30-1.50	0.60-2.00	0.17-0.20	1.0-4.0	0.0-0.5	.43	.43			
	30-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
HnD2: Holdrege-----	0-8	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	8-21	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	21-29	7	65	20-35	1.30-1.50	0.20-0.60	0.17-0.20	1.0-5.9	0.0-0.5	.43	.43			
	29-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
Uly-----	0-7	11	67	17-27	1.20-1.45	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	7-20	9	66	20-30	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-60	10	68	18-27	1.25-1.45	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
Hr: Hord-----	0-16	11	67	17-27	1.30-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	16-41	9	65	20-35	1.35-1.45	0.60-2.00	0.17-0.22	1.0-5.9	0.5-1.0	.43	.43			
	41-60	9	67	18-30	1.30-1.50	0.60-2.00	0.17-0.22	0.0-4.0	0.0-0.5	.43	.43			
HrB: Hord-----	0-14	11	67	17-27	1.30-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	14-39	9	65	20-35	1.35-1.45	0.60-2.00	0.17-0.22	1.0-5.9	0.5-1.0	.43	.43			
	39-60	9	67	18-30	1.30-1.50	0.60-2.00	0.17-0.22	0.0-4.0	0.0-0.5	.43	.43			
Ig: Inavale-----	0-8	85	9	2-10	1.50-1.60	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	8-24	84	9	3-10	1.50-1.60	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
	24-60	92	1	3-10	1.50-1.60	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
In: Inavale-----	0-10	63	26	7-15	1.40-1.50	2.00-6.00	0.13-0.18	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	10-26	84	9	3-10	1.50-1.60	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
	26-60	92	1	3-10	1.50-1.60	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
INT: Aquolls-----	0-72			---	---	---	---	---	---	---	---	-	---	0
Kn: Kenesaw-----	0-8	11	67	18-25	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-20	14	71	10-20	1.20-1.30	0.60-2.00	0.17-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-60	14	73	8-18	1.30-1.40	0.60-2.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
KnB: Kenesaw-----	0-8	11	67	18-25	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-20	14	71	10-20	1.20-1.30	0.60-2.00	0.17-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-60	14	73	8-18	1.30-1.40	0.60-2.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
KnC: Kenesaw-----	0-8	11	67	18-25	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-20	14	71	10-20	1.20-1.30	0.60-2.00	0.17-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-60	14	73	8-18	1.30-1.40	0.60-2.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
KsF: Kipson-----	0-7	26	53	15-27	1.30-1.40	0.60-2.00	0.21-0.24	0.0-2.9	1.0-3.0	.32	.32	2	4L	86
	7-19	24	50	18-35	1.35-1.50	0.60-2.00	0.15-0.20	1.0-5.9	0.5-1.0	.32	.43			
	19-23			---	---	---	---	---	---	---	---			
M-W: Miscellaneous Water-----	---			---	---	---	---	---	---	---	---	-	---	---
Ma: Fluvaquents--	0-60	67	24	1-18	1.30-1.80	5.95-19.98	0.07-0.13	0.0-2.9	2.0-8.0	.17	.17	5	8	0
Mb: Mccook-----	0-11	66	20	10-17	1.40-1.60	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	11-80	60	26	10-18	1.30-1.45	0.60-2.00	0.17-0.20	0.0-2.9	0.0-1.0	.43	.43			
Mc: Mccook-----	0-21	14	69	15-20	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	5	4L	86
	21-60	60	26	10-18	1.30-1.45	0.60-2.00	0.17-0.20	0.0-2.9	0.0-1.0	.43	.43			
Mn: Munjoy-----	0-9	88	1	7-15	1.30-1.40	2.00-6.00	0.11-0.13	0.0-2.9	0.5-1.0	.17	.17	4	2	134
	9-46	63	26	7-15	1.30-1.40	2.00-6.00	0.13-0.18	0.0-2.9	0.0-0.5	.24	.24			
	46-60	96	2	1-5	1.40-1.50	5.95-19.98	0.06-0.09	0.0-2.9	0.0-0.5	.17	.17			
Mu: Munjoy-----	0-9	66	20	7-20	1.30-1.40	2.00-6.00	0.13-0.18	0.0-2.9	0.5-1.0	.24	.24	4	3	86
	9-46	68	20	7-18	1.30-1.40	2.00-6.00	0.13-0.18	0.0-2.9	0.0-0.5	.24	.24			
	46-60	96	2	1-5	1.40-1.50	5.95-19.98	0.06-0.09	0.0-2.9	0.0-0.5	.24	.24			

PHYSICAL PROPERTIES OF THE SOILS
Franklin County, Nebraska: Published

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
NhF:														
Nuckolls-----	0-10	9	67	20-27	1.10-1.30	0.60-2.00	0.22-0.24	1.0-3.0	2.0-3.0	.32	.32	5	6	48
	10-29	9	65	22-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-5.9	0.5-1.0	.43	.43			
	29-60	9	65	20-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-4.0	0.0-0.5	.43	.43			
Hobbs-----	0-8	11	68	15-27	1.20-1.40	0.60-2.00	0.21-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	8-45			15-27	1.20-1.40	0.60-2.00	0.18-0.20	0.0-2.9	0.5-1.0	.32	.32			
	45-60	10	68	15-30	1.20-1.40	0.60-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.43	.43			
NmC:														
Holdrege-----	0-9	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	9-22	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	22-30	7	65	20-35	1.30-1.50	0.20-0.60	0.17-0.20	1.0-5.9	0.0-0.5	.43	.43			
	30-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
Nuckolls-----	0-10	9	67	20-27	1.10-1.30	0.60-2.00	0.22-0.24	1.0-3.0	2.0-3.0	.32	.32	5	6	48
	10-29	9	65	22-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-5.9	0.5-1.0	.43	.43			
	29-60	9	65	20-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-4.0	0.0-0.5	.43	.43			
NmD:														
Holdrege-----	0-8	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	8-22	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	22-30	7	65	20-35	1.30-1.50	0.20-0.60	0.17-0.20	1.0-5.9	0.0-0.5	.43	.43			
	30-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
Nuckolls-----	0-9	9	67	20-27	1.10-1.30	0.60-2.00	0.22-0.24	1.0-3.0	2.0-3.0	.32	.32	5	6	48
	9-27	9	65	22-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-5.9	0.5-1.0	.43	.43			
	27-60	9	65	20-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-4.0	0.0-0.5	.43	.43			
NoD2:														
Holdrege-----	0-8	9	67	20-27	1.40-1.60	0.60-2.00	0.22-0.24	1.0-3.0	2.0-4.0	.32	.32	5	6	48
	8-21	7	62	28-35	1.20-1.40	0.20-0.60	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	21-27	7	65	20-35	1.30-1.50	0.20-0.60	0.17-0.20	1.0-5.9	0.0-0.5	.43	.43			
	27-60	9	67	20-27	1.40-1.60	0.60-2.00	0.20-0.22	1.0-3.0	0.0-0.5	.43	.43			
Nuckolls-----	0-7	9	67	20-27	1.10-1.30	0.60-2.00	0.22-0.24	1.0-3.0	2.0-3.0	.32	.32	5	6	48
	7-24	9	65	22-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-5.9	0.5-1.0	.43	.43			
	24-60	9	65	20-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-4.0	0.0-0.5	.43	.43			
NpD:														
Meadin-----	0-8	45	43	7-17	1.40-1.60	2.00-6.00	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	5	56
	8-14	65	23	5-18	1.50-1.60	2.00-6.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
	14-60	90	6	2-5	1.50-1.70	19.98-19.98	0.02-0.05	0.0-2.9	0.0-0.5	.10	.28			
Nuckolls-----	0-10	9	67	20-27	1.10-1.30	0.60-2.00	0.22-0.24	1.0-3.0	2.0-3.0	.32	.32	5	6	48
	10-29	9	65	22-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-5.9	0.5-1.0	.43	.43			
	29-60	9	65	20-32	1.20-1.30	0.60-2.00	0.18-0.20	1.0-4.0	0.0-0.5	.43	.43			
Ra:														
Fluvaquents--	0-6	90	1	1-18	1.30-1.80	5.95-19.98	0.07-0.13	0.0-2.9	2.0-8.0	.17	.17	5	8	0
	6-60			---	---	0.00-19.99	---	---	---	---	---			
RbG:														
Coly-----	0-4	11	68	18-24	1.30-1.50	0.60-2.00	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	4-80	11	68	18-24	1.30-1.50	0.60-2.00	0.17-0.22	0.0-2.9	0.5-1.0	.43	.43			
RcF:														
Canyon-----	0-9	44	40	12-20	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	0.5-1.0	.32	.32	2	4L	86
	9-16	43	38	12-25	1.30-1.50	0.60-2.00	0.13-0.18	0.0-2.9	0.5-1.0	.28	.43			
	16-60			---	---	0.20-0.60	---	---	---	---	---			
Rx:														
Roxbury-----	0-14	10	68	18-27	1.30-1.45	0.60-2.00	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	4L	86
	14-30	9	64	18-35	1.35-1.50	0.60-2.00	0.17-0.22	0.0-5.9	1.0-3.0	.43	.43			
	30-60	9	64	18-35	1.35-1.50	0.60-2.00	0.17-0.22	0.0-5.9	0.0-0.5	.43	.43			
Sa:														
Fluvaquents--	0-6	90	1	1-18	1.30-1.80	5.95-19.98	0.07-0.13	0.0-2.9	2.0-8.0	.17	.17	5	8	0
	6-60			---	---	0.00-19.99	---	---	---	---	---			
Sc:														
Scott-----	0-8	26	53	15-27	1.25-1.40	0.60-2.00	0.21-0.24	0.0-2.9	2.0-4.0	.37	.37	3	6	48
	8-34	23	29	40-55	1.20-1.40	0.00-0.06	0.08-0.16	7.0-12.0	1.0-2.0	.37	.37			
	34-46	19	48	27-40	1.15-1.40	0.20-0.60	0.18-0.20	6.0-8.9	0.5-1.0	.43	.43			
	46-80	24	50	18-35	1.30-1.50	0.60-2.00	0.14-0.22	0.0-5.9	0.5-1.0	.43	.43			
UaC:														
Uly-----	0-10	11	67	17-27	1.20-1.45	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	10-28	9	66	20-30	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.43	.43			
	28-60	10	68	18-27	1.25-1.45	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
UaD:														
Uly-----	0-9	11	67	17-27	1.20-1.45	0.60-2.00	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	9-26	9	66	20-30	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	0.5-1.0	.43	.43			
	26-60	10	68	18-27	1.25-1.45	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
VaF:														
Valentine----	0-5	85	9	2-10	1.35-1.55	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	5-9	87	7	2-10	1.55-1.75	5.95-19.98	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
	9-80	96	1	0-6	1.60-1.80	5.95-19.98	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
VhD:														
Valentine----	0-6	85	9	2-10	1.35-1.55	5.95-19.98	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	6-9	87	7	2-10	1.55-1.75	5.95-19.98	0.09-0.11	0.0-2.9	0.0-0.5	.17	.17			
	9-60	96	1	0-6	1.60-1.80	5.95-19.98	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
Hersh-----	0-7	66	20	10-18	1.30-1.50	2.00-6.00	0.16-0.18	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-14	67	20	8-18	1.30-1.50	2.00-6.00	0.15-0.18	0.0-2.9	0.5-1.0	.24	.24			
	14-40	66	20	10-18	1.20-1.50	2.00-6.00	0.15-0.17	0.0-2.9	0.0-0.5	.24	.24			
	40-60	87	7	2-10	1.60-1.80	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
W:														
Water-----	---			---	---	---	---	---	---	---	---	-	---	0

PHYSICAL PROPERTIES OF THE SOILS
Franklin County, Nebraska: Published

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
Wa: Wann-----	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
	0-11	64	26	5-15	1.30-1.50	2.00-6.00	0.13-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	11-42	66	23	3-18	1.50-1.70	2.00-6.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28			
Wb: Wann-----	42-60			3-22	1.35-1.80	2.00-6.00	0.05-0.17	0.0-2.9	0.0-0.5	.15	.15			
	0-11	27	54	12-25	1.20-1.45	0.60-2.00	0.20-0.23	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	11-42	66	23	3-18	1.50-1.70	2.00-6.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.28			
	42-60			3-22	1.35-1.80	2.00-6.00	0.05-0.17	0.0-2.9	0.0-0.5	.15	.15			

CHEMICAL PROPERTIES OF THE SOILS
Franklin County, Nebraska

The Chemical Properties table shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils. Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

CHEMICAL PROPERTIES OF THE SOILS--Continued
Franklin County, Nebraska

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Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
Br:							
Hobbs-----	0-7	15-30	6.1-7.8	0	0	0	0
	7-34	10-20	6.1-7.8	0	0	0	0
	34-80	20-40	6.6-8.4	0-5	0	0	0
Bu:							
Butler-----	0-14	18-27	5.1-6.5	0	0	0	0
	14-31	30-40	5.6-7.8	0	0	0	0
	31-41	20-35	6.6-8.4	0-5	0	0	0
	41-60	10-30	6.6-8.4	0-5	0	0	0
CaF:							
Campus-----	0-16	5.0-15	7.4-8.4	5-15	0	0	0
	16-25	5.0-10	7.9-8.4	15-35	0	0	0
	25-60	---	---	0	0	0	0
CnF:							
Canyon-----	0-9	5.0-20	7.4-8.4	1-10	0	0.0-2.0	0
	9-14	10-20	7.4-8.4	1-10	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Campus-----	0-16	5.0-15	7.4-8.4	5-15	0	0	0
	16-25	5.0-10	7.9-8.4	15-35	0	0	0
	25-60	---	---	0	0	0	0
CoD2:							
Coly-----	0-4	14-19	7.4-8.4	1-5	0	0	0
	4-80	13-18	7.4-8.4	5-10	0	0	0
Uly-----	0-8	10-20	6.1-7.8	0	0	0	0
	8-26	14-25	6.1-7.8	0	0	0	0
	26-60	12-20	7.4-8.4	1-15	0	0	0
CoF:							
Coly-----	0-5	14-19	7.4-8.4	1-5	0	0	0
	5-60	13-18	7.4-8.4	5-10	0	0	0
Uly-----	0-9	10-20	6.1-7.8	0	0	0	0
	9-26	14-25	6.1-7.8	0	0	0	0
	26-60	12-20	7.4-8.4	1-15	0	0	0
De:							
Detroit-----	0-15	10-25	6.1-7.3	0	0	0	0
	15-35	15-30	6.6-7.8	0	0	0	0
	35-60	10-20	6.6-8.4	0-10	0	0	0-1
Fm:							
Fillmore-----	0-16	15-22	5.1-6.5	0	0	0	0
	16-34	32-40	5.6-7.8	0	0	0	0
	34-46	22-30	6.6-8.4	0-5	0	0	0
	46-60	12-40	6.6-8.4	0-5	0	0	0
Gb:							
Gibbon-----	0-7	16-22	7.4-8.4	0-5	0	0.0-2.0	0
	7-15	18-26	7.4-8.4	5-15	0	0.0-2.0	0-5
	15-60	10-21	7.9-9.0	5-15	0	0.0-2.0	0-5
GcF:							
Ustorthents----	0-6	0.0-5.0	5.1-7.3	0	0	0	0
	6-60	0.0-2.0	5.6-7.3	0	0	0	0
GP:							
Pits-----	0-60	0.0-5.0	6.6-8.4	0	0	0	0
Ha:							
Hall-----	0-6	13-23	6.1-7.3	0	0	0	0
	6-32	15-27	6.1-7.8	0	0	0	0
	32-38	11-22	6.6-7.8	0-5	0	0	0
	38-60	8.0-22	6.6-8.4	1-5	0	0	0
Hb:							
Hall-----	0-6	13-23	6.1-7.3	0	0	0	0
	6-32	15-27	6.1-7.8	0	0	0	0
	32-38	11-22	6.6-7.8	0-5	0	0	0
	38-60	8.0-22	6.6-8.4	1-5	0	0	0
Hc:							
Hastings-----	0-9	12-22	5.6-7.3	0	0	0	0
	9-37	24-30	5.6-7.3	0	0	0	0
	37-60	17-27	6.1-8.4	0-5	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
Franklin County, Nebraska

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Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
HdC:							
Hersh-----	0-8	10-15	6.1-7.3	0	0	0	0
	8-16	8.0-12	6.1-7.3	0	0	0	0
	16-40	8.0-12	6.6-7.8	0	0	0	0
	40-60	0.0-5.0	6.6-7.8	0-3	0	0	0
Valentine-----	0-5	2.0-8.0	5.6-7.3	0	0	0	0
	5-9	1.0-8.0	5.6-7.3	0	0	0	0
	9-80	0.0-5.0	5.6-7.3	0	0	0	0
HdD:							
Hersh-----	0-8	10-15	6.1-7.3	0	0	0	0
	8-16	8.0-12	6.1-7.3	0	0	0	0
	16-40	8.0-12	6.6-7.8	0	0	0	0
	40-60	0.0-5.0	6.6-7.8	0-3	0	0	0
Valentine-----	0-5	2.0-8.0	5.6-7.3	0	0	0	0
	5-9	1.0-8.0	5.6-7.3	0	0	0	0
	9-80	0.0-5.0	5.6-7.3	0	0	0	0
Hf:							
Hobbs-----	0-8	15-30	6.1-7.8	0	0	0	0
	8-45	10-20	6.1-7.8	0	0	0	0
	45-60	20-40	6.6-8.4	0-5	0	0	0
Hh:							
Holdrege-----	0-13	16-24	5.6-7.3	0	0	0	0
	13-26	19-26	6.6-7.8	0	0	0	0
	26-34	14-21	6.6-7.8	0	0	0	0
	34-60	14-19	7.4-8.4	0-5	0	0	0
HhB:							
Holdrege-----	0-11	16-24	5.6-7.3	0	0	0	0
	11-24	19-26	6.6-7.8	0	0	0	0
	24-32	14-21	6.6-7.8	0	0	0	0
	32-60	14-19	7.4-8.4	0-5	0	0	0
HhC:							
Holdrege-----	0-9	16-24	5.6-7.3	0	0	0	0
	9-22	19-26	6.6-7.8	0	0	0	0
	22-30	14-21	6.6-7.8	0	0	0	0
	30-60	14-19	7.4-8.4	0-5	0	0	0
HhD:							
Holdrege-----	0-8	16-24	5.6-7.3	0	0	0	0
	8-22	19-26	6.6-7.8	0	0	0	0
	22-30	14-21	6.6-7.8	0	0	0	0
	30-60	14-19	7.4-8.4	0-5	0	0	0
HnD2:							
Holdrege-----	0-8	16-24	5.6-7.3	0	0	0	0
	8-21	19-26	6.6-7.8	0	0	0	0
	21-29	14-21	6.6-7.8	0	0	0	0
	29-60	14-19	7.4-8.4	0-5	0	0	0
Uly-----	0-7	10-20	6.1-7.8	0	0	0	0
	7-20	14-25	6.1-7.8	0	0	0	0
	20-60	12-20	7.4-8.4	1-15	0	0	0
Hr:							
Hord-----	0-16	10-20	5.6-7.3	0	0	0	0
	16-41	10-30	6.1-7.8	0	0	0	0
	41-60	10-35	7.4-8.4	0-5	0	0	0
HrB:							
Hord-----	0-14	10-20	5.6-7.3	0	0	0	0
	14-39	10-30	6.1-7.8	0	0	0	0
	39-60	10-35	7.4-8.4	0-5	0	0	0
Ig:							
Inavale-----	0-8	2.0-10	5.6-7.8	0	0	0	0
	8-24	1.0-10	5.6-7.8	0	0	0	0
	24-60	1.0-10	5.6-8.4	0	0	0	0
In:							
Inavale-----	0-10	5.0-15	5.6-7.8	0	0	0	0
	10-26	0.0-10	5.6-7.8	0	0	0	0
	26-60	0.0-10	5.6-8.4	0	0	0	0
INT:							
Aquolls-----	0-72	---	---	---	---	---	---
Kn:							
Kenesaw-----	0-8	9.0-17	6.1-7.3	0	0	0	0
	8-20	7.0-13	6.6-8.4	0-5	0	0	0
	20-60	5.0-13	7.4-8.4	1-5	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
Franklin County, Nebraska

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Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
KnB:							
Kenesaw-----	0-8	9.0-17	6.1-7.3	0	0	0	0
	8-20	7.0-13	6.6-8.4	0-5	0	0	0
	20-60	5.0-13	7.4-8.4	1-5	0	0	0
KnC:							
Kenesaw-----	0-8	9.0-17	6.1-7.3	0	0	0	0
	8-20	7.0-13	6.6-8.4	0-5	0	0	0
	20-60	5.0-13	7.4-8.4	1-5	0	0	0
KsF:							
Kipson-----	0-7	20-30	7.4-8.4	10-20	0	0	0
	7-19	10-30	7.9-9.0	30-60	0	0	0
	19-23	---	---	---	---	---	---
M-W:							
Miscellaneous	---	---	---	---	---	---	---
Water-----							
Ma:							
Fluvaquents----	0-60	1.0-20	6.6-8.4	0-5	0	0.0-2.0	0
Mb:							
Mccook-----	0-11	8.0-14	7.4-8.4	1-10	0	0	0
	11-80	7.0-14	7.4-8.4	1-10	0	0	0
Mc:							
Mccook-----	0-21	12-20	7.4-8.4	1-10	0	0	0
	21-60	7.0-14	7.4-8.4	1-10	0	0	0
Mn:							
Munjor-----	0-9	4.0-10	7.4-8.4	1-10	0	0	0
	9-46	4.0-10	7.4-8.4	1-10	0	0	0
	46-60	1.0-5.0	7.4-8.4	1-10	0	0	0
Mu:							
Munjor-----	0-9	5.0-15	7.4-8.4	1-10	0	0	0
	9-46	5.0-15	7.4-8.4	1-10	0	0	0
	46-60	1.0-5.0	7.4-8.4	1-10	0	0	0
NhF:							
Nuckolls-----	0-10	15-25	6.6-7.8	0	0	0	0
	10-29	15-30	6.6-7.8	0	0	0	0
	29-60	15-30	7.4-8.4	1-10	0	0	0
Hobbs-----	0-8	15-30	6.1-7.8	0	0	0	0
	8-45	10-20	6.1-7.8	0	0	0	0
	45-60	20-40	6.6-8.4	0-5	0	0	0
NmC:							
Nuckolls-----	0-10	15-25	6.6-7.8	0	0	0	0
	10-29	15-30	6.6-7.8	0	0	0	0
	29-60	15-30	7.4-8.4	1-10	0	0	0
Holdrege-----	0-9	16-24	5.6-7.3	0	0	0	0
	9-22	19-26	6.6-7.8	0	0	0	0
	22-30	14-21	6.6-7.8	0	0	0	0
	30-60	14-19	7.4-8.4	0-5	0	0	0
NmD:							
Nuckolls-----	0-9	15-25	6.6-7.8	0	0	0	0
	9-27	15-30	6.6-7.8	0	0	0	0
	27-60	15-30	7.4-8.4	1-10	0	0	0
Holdrege-----	0-8	16-24	5.6-7.3	0	0	0	0
	8-22	19-26	6.6-7.8	0	0	0	0
	22-30	14-21	6.6-7.8	0	0	0	0
	30-60	14-19	7.4-8.4	0-5	0	0	0
NoD2:							
Nuckolls-----	0-7	15-25	6.6-7.8	0	0	0	0
	7-24	15-30	6.6-7.8	0	0	0	0
	24-60	15-30	7.4-8.4	1-10	0	0	0
Holdrege-----	0-8	16-24	5.6-7.3	0	0	0	0
	8-21	19-26	6.6-7.8	0	0	0	0
	21-27	14-21	6.6-7.8	0	0	0	0
	27-60	14-19	7.4-8.4	0-5	0	0	0
NpD:							
Nuckolls-----	0-10	15-25	6.6-7.8	0	0	0	0
	10-29	15-30	6.6-7.8	0	0	0	0
	29-60	15-30	7.4-8.4	1-10	0	0	0
Meadin-----	0-8	10-20	5.1-7.3	0	0	0	0
	8-14	5.0-15	5.1-7.3	0	0	0	0
	14-60	0.0-5.0	6.1-7.3	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
Franklin County, Nebraska

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Map symbol and soil name	Depth	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm	
Ra: Fluvaquents-----	0-6 6-60	1.0-20 ---	6.6-8.4 ---	0-5 ---	0 ---	0.0-2.0 ---	0 ---
RbG: Coly-----	0-4 4-80	14-19 13-18	7.4-8.4 7.4-8.4	1-5 5-10	0 0	0 0	0 0
RcF: Canyon-----	0-9 9-16 16-60	5.0-20 10-20 ---	7.4-8.4 7.4-8.4 ---	1-10 1-10 ---	0 0 ---	0.0-2.0 0.0-2.0 ---	0 0 ---
Rx: Roxbury-----	0-14 14-30 30-60	10-25 10-30 10-30	7.4-8.4 7.4-8.4 7.4-8.4	1-5 1-5 5-10	0 0 0	0 0 0	0 0 0
Sa: Fluvaquents-----	0-6 6-60	1.0-20 ---	6.6-8.4 ---	0-5 ---	0 ---	0.0-2.0 ---	0 ---
Sc: Scott-----	0-8 8-34 34-46 46-80	20-30 20-35 20-35 25-35	5.1-6.5 5.6-7.8 6.6-8.4 6.6-8.4	0 0 0-5 0-5	0 0 0 0	0 0 0 0	0 0 0 0
UaC: Uly-----	0-10 10-28 28-60	10-20 14-25 12-20	6.1-7.8 6.1-7.8 7.4-8.4	0 0 1-15	0 0 0	0 0 0	0 0 0
UaD: Uly-----	0-9 9-26 26-60	10-20 14-25 12-20	6.1-7.8 6.1-7.8 7.4-8.4	0 0 1-15	0 0 0	0 0 0	0 0 0
VaF: Valentine-----	0-5 5-9 9-80	2.0-8.0 1.0-8.0 0.0-5.0	5.6-7.3 5.6-7.3 5.6-7.3	0 0 0	0 0 0	0 0 0	0 0 0
VhD: Valentine-----	0-6 6-9 9-60	2.0-8.0 1.0-8.0 0.0-5.0	5.6-7.3 5.6-7.3 5.6-7.3	0 0 0	0 0 0	0 0 0	0 0 0
Hersh-----	0-7 7-14 14-40 40-60	10-15 8.0-12 8.0-12 0.0-5.0	6.1-7.3 6.1-7.3 6.6-7.8 6.6-7.8	0 0 0 0-3	0 0 0 0	0 0 0 0	0 0 0 0
W: Water-----	---	---	---	---	---	---	---
Wa: Wann-----	0-11 11-42 42-60	4.0-14 2.0-14 2.0-16	6.6-8.4 7.4-9.0 7.4-9.0	0-5 0-5 0-5	0 0 0	0.0-2.0 0.0-2.0 0.0-2.0	0-5 0-10 0-10
Wb: Wann-----	0-11 11-42 42-60	9.0-21 2.0-14 2.0-16	6.6-8.4 7.4-9.0 7.4-9.0	0-5 0-5 0-5	0 0 0	0.0-2.0 0.0-2.0 0.0-2.0	0-5 0-10 0-10

WATER FEATURES Franklin County, Nebraska

The Water Features table gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations. Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The months in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The Water Features table indicates, by month, depth to the top (upper limit) and base (lower limit) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The Water Features table indicates surface water depth and the duration and frequency of ponding. Duration is expressed as very brief if less than 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. None means that ponding is not probable; rare that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); occasional that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and frequent that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and frequency are estimated. Duration is expressed as extremely brief if 0.1 hour to 4 hours, very brief if 4 hours to 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. None means that flooding is not probable; very rare that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); rare that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); occasional that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); frequent that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and very frequent that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Br: Hobbs-----	B	April	---	---	---	---	---	Brief	Frequent
		May	---	---	---	---	---	Brief	Frequent
		June	---	---	---	---	---	Brief	Frequent
		July	---	---	---	---	---	Brief	Frequent
		August	---	---	---	---	---	Brief	Frequent
		September	---	---	---	---	---	Brief	Frequent
Bu: Butler-----	D	March	0.5-1.5	1.0-2.0	---	---	---	---	None
		April	0.5-1.5	1.0-2.0	---	---	---	---	None
		May	0.5-1.5	1.0-2.0	---	---	---	---	None
		June	0.5-1.5	1.0-2.0	---	---	---	---	None
		July	0.5-1.5	1.0-2.0	---	---	---	---	None
CaF: Campus-----	B		---	---	---	---	---	---	---
CnF: Canyon-----	D		---	---	---	---	---	---	---
Campus-----	B		---	---	---	---	---	---	---
CoD2: Coly-----	B		---	---	---	---	---	---	---
Uly-----	B		---	---	---	---	---	---	---
CoF: Coly-----	B		---	---	---	---	---	---	---
Uly-----	B		---	---	---	---	---	---	---
De: Detroit-----	C		---	---	---	---	---	---	---
Fm: Fillmore-----	D	March	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		April	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		May	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		June	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
		July	0.0-2.0	1.0-3.0	0.0-0.5	Brief	Occasional	---	None
Gb: Gibbon-----	B	January	1.5-3.0	>6.0	---	---	---	---	None
		February	1.5-3.0	>6.0	---	---	---	---	None
		March	1.5-3.0	>6.0	---	---	---	---	None
		April	1.5-3.0	>6.0	---	---	---	---	None
		May	1.5-3.0	>6.0	---	---	---	---	None
		June	1.5-3.0	>6.0	---	---	---	---	None
		November	1.5-3.0	>6.0	---	---	---	---	None
		December	1.5-3.0	>6.0	---	---	---	---	None
GcF: Ustorthents-----	A		---	---	---	---	---	---	---
GP: Pits-----	A		---	---	---	---	---	---	---
Ha: Hall-----	B		---	---	---	---	---	---	---
Hb: Hall-----	B		---	---	---	---	---	---	---
Hc: Hastings-----	B		---	---	---	---	---	---	---
HdC: Hersh-----	B		---	---	---	---	---	---	---
Valentine-----	A		---	---	---	---	---	---	---
HdD: Hersh-----	B		---	---	---	---	---	---	---
Valentine-----	A		---	---	---	---	---	---	---
Hf:			---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Hobbs-----	B	April	---	---	---	---	---	Brief	Occasional
		May	---	---	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		July	---	---	---	---	---	Brief	Occasional
		August	---	---	---	---	---	Brief	Occasional
		September	---	---	---	---	---	Brief	Occasional
Hh: Holdrege-----	B		---	---	---	---	---	---	---
HhB: Holdrege-----	B		---	---	---	---	---	---	---
HhC: Holdrege-----	B		---	---	---	---	---	---	---
HhD: Holdrege-----	B		---	---	---	---	---	---	---
HnD2: Holdrege-----	B		---	---	---	---	---	---	---
Uly-----	B		---	---	---	---	---	---	---
Hr: Hord-----	B		---	---	---	---	---	---	---
HrB: Hord-----	B		---	---	---	---	---	---	---
Ig: Inavale-----	A	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
In: Inavale-----	A	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
INT: Aguolls-----	C	March	0.0	>6.0	0.0-0.8	Brief	Occasional	---	None
		April	0.0	>6.0	0.0-0.8	Brief	Occasional	---	None
		May	0.0	>6.0	0.0-0.8	Brief	Occasional	---	None
		June	0.0	>6.0	0.0-0.8	Brief	Occasional	---	None
Kn: Kenesaw-----	B		---	---	---	---	---	---	---
KnB: Kenesaw-----	B		---	---	---	---	---	---	---
KnC: Kenesaw-----	B		---	---	---	---	---	---	---
KsF: Kipson-----	D		---	---	---	---	---	---	---
Ma: Fluvaquents-----	D	January	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		February	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		March	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		April	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		May	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		June	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		July	0.0	>6.0	0.0-2.0	Very long	---	---	None
		August	0.0	>6.0	0.0-2.0	Very long	---	---	None
		September	0.0	>6.0	0.0-2.0	Very long	---	---	None
		October	0.0	>6.0	0.0-2.0	Very long	---	---	None
		November	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		December	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
Mb:									

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Mccook-----	B	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
Mc: Mccook-----	B	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
Mn: Munjor-----	B	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
Mu: Munjor-----	B	January	---	---	---	---	---	Very brief	Rare
		February	---	---	---	---	---	Very brief	Rare
		March	---	---	---	---	---	Very brief	Rare
		April	---	---	---	---	---	Very brief	Rare
		May	---	---	---	---	---	Very brief	Rare
		June	---	---	---	---	---	Very brief	Rare
		July	---	---	---	---	---	Very brief	Rare
NhF: Nuckolls-----	B		---	---	---	---	---	---	---
Hobbs-----	B	April	---	---	---	---	---	Brief	Occasional
		May	---	---	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		July	---	---	---	---	---	Brief	Occasional
		August	---	---	---	---	---	Brief	Occasional
		September	---	---	---	---	---	Brief	Occasional
NmC: Holdrege-----	B		---	---	---	---	---	---	---
Nuckolls-----	B		---	---	---	---	---	---	---
NmD: Holdrege-----	B		---	---	---	---	---	---	---
Nuckolls-----	B		---	---	---	---	---	---	---
NoD2: Holdrege-----	B		---	---	---	---	---	---	---
Nuckolls-----	B		---	---	---	---	---	---	---
NpD: Meadin-----	A		---	---	---	---	---	---	---
Nuckolls-----	B		---	---	---	---	---	---	---
Ra: Fluvaquents-----	D	January	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		February	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		March	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		April	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		May	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		June	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		July	0.0	>6.0	0.0-2.0	Very long	---	---	None
		August	0.0	>6.0	0.0-2.0	Very long	---	---	None
		September	0.0	>6.0	0.0-2.0	Very long	---	---	None
		October	0.0	>6.0	0.0-2.0	Very long	---	---	None
		November	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
		December	0.0	>6.0	0.0-2.0	Very long	---	Brief	Frequent
RbG: Coly-----	B		---	---	---	---	---	---	---
RcF: Canyon-----	D		---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rx: Roxbury-----	B		---	---	---	---	---	---	---
Sa: Fluvaquents-----	D		---	---	---	---	---	---	---
		January	0.0	>6.0	---	---	---	Brief	Frequent
		February	0.0	>6.0	---	---	---	Brief	Frequent
		March	0.0	>6.0	---	---	---	Brief	Frequent
		April	0.0	>6.0	---	---	---	Brief	Frequent
		May	0.0	>6.0	---	---	---	Brief	Frequent
		June	0.0	>6.0	---	---	---	Brief	Frequent
		July	0.0	>6.0	---	---	---	Brief	Frequent
		August	0.0	>6.0	---	---	---	---	None
		September	0.0	>6.0	---	---	---	---	None
		October	0.0	>6.0	---	---	---	---	None
		November	0.0	>6.0	---	---	---	---	None
		December	0.0	>6.0	---	---	---	---	None
Sc: Scott-----	D								
		March	0.0-1.0	0.5-1.5	0.0-1.0	Long	Frequent	---	None
		April	0.0-1.0	0.5-1.5	0.0-1.0	Long	Frequent	---	None
		May	0.0-1.0	0.5-1.5	0.0-1.0	Long	Frequent	---	None
		June	0.0-1.0	0.5-1.5	0.0-1.0	Long	Frequent	---	None
		July	0.0-1.0	0.5-1.5	0.0-1.0	Long	Frequent	---	None
UaC: Uly-----	B		---	---	---	---	---	---	---
UaD: Uly-----	B		---	---	---	---	---	---	---
VaF: Valentine-----	A		---	---	---	---	---	---	---
VhD: Valentine-----	A		---	---	---	---	---	---	---
Hersh-----	B		---	---	---	---	---	---	---
W: Water-----	---		---	---	---	---	---	---	---
Wa: Wann-----	B								
		March	1.5-3.5	>6.0	---	---	---	---	None
		April	1.5-3.5	>6.0	---	---	---	---	None
		May	1.5-3.5	>6.0	---	---	---	---	None
		June	1.5-3.5	>6.0	---	---	---	---	None
		July	1.5-3.5	>6.0	---	---	---	---	None
Wb: Wann-----	B								
		March	1.5-3.5	>6.0	---	---	---	---	None
		April	1.5-3.5	>6.0	---	---	---	---	None
		May	1.5-3.5	>6.0	---	---	---	---	None
		June	1.5-3.5	>6.0	---	---	---	---	None
		July	1.5-3.5	>6.0	---	---	---	---	None

The following table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A restrictive layer is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth to top is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as low, moderate, or high, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as low, moderate, or high. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

SOIL FEATURES--Continued
Franklin County, Nebraska

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated Steel	Concrete
Br:							
Hobbs-----	---	---	---	---	Moderate	Low	Low
Bu:							
Butler-----	---	---	---	---	High	High	Low
CaF:							
Campus-----	20-40	Bedrock (lithic)	---	---	Low	Low	Low
CnF:							
Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	High	Low
Campus-----	20-40	Bedrock (lithic)	---	---	Low	Low	Low
Cod2:							
Coly-----	---	---	---	---	Moderate	High	Low
Uly-----	---	---	---	---	Moderate	High	Low
CoF:							
Coly-----	---	---	---	---	Moderate	High	Low
Uly-----	---	---	---	---	Moderate	High	Low
De:							
Detroit-----	---	---	---	---	Low	High	Low
Fm:							
Fillmore-----	---	---	---	---	High	High	Low
Gb:							
Gibbon-----	---	---	---	---	High	High	Low
GcF:							
Ustorthents-----	---	---	---	---	Low	Low	Moderate
GP:							
Pits-----	---	---	---	---	Low	Low	Low
Ha:							
Hall-----	---	---	---	---	Moderate	Moderate	Low
Hb:							
Hall-----	---	---	---	---	Moderate	Moderate	Low
Hc:							
Hastings-----	---	---	---	---	Moderate	Moderate	Low
HdC:							
Hersh-----	---	---	---	---	Moderate	Low	Low
Valentine-----	---	---	---	---	Low	Low	Low
HdD:							
Hersh-----	---	---	---	---	Moderate	Low	Low
Valentine-----	---	---	---	---	Low	Low	Low
Hf:							
Hobbs-----	---	---	---	---	Moderate	Low	Low
Hh:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
HhB:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
HhC:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
HhD:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
HnD2:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
Uly-----	---	---	---	---	Moderate	High	Low
Hr:							
Hord-----	---	---	---	---	Moderate	High	Low
HrB:							
Hord-----	---	---	---	---	Moderate	High	Low
Ig:							
Inavale-----	---	---	---	---	Low	Moderate	Low
In:							
Inavale-----	---	---	---	---	Low	Moderate	Low
INT:							
Aquolls-----	---	---	---	---	Low	---	---
Kn:							
Kenesaw-----	---	---	---	---	Moderate	Moderate	Low
KnB:							
Kenesaw-----	---	---	---	---	Moderate	Moderate	Low
KnC:							
Kenesaw-----	---	---	---	---	Moderate	Moderate	Low
KsF:							
Kipson-----	6-20	Bedrock (paralithic)	---	---	Moderate	Low	Low
M-W:							
Miscellaneous Water-----	---	---	---	---	---	---	---
Ma:							
Fluvaquents-----	---	---	---	---	Moderate	High	Low
Mb:							
Mccook-----	---	---	---	---	Moderate	Low	Low
Mc:							
Mccook-----	---	---	---	---	Moderate	Low	Low
Mn:							
Munjor-----	---	---	---	---	Low	Moderate	Low
Mu:							
Munjor-----	---	---	---	---	Low	Moderate	Low
NhF:							
Nuckolls-----	---	---	---	---	Moderate	High	Low
Hobbs-----	---	---	---	---	Moderate	Low	Low

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
		In	In				
NmC:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
Nuckolls-----	---	---	---	---	Moderate	High	Low
NmD:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
Nuckolls-----	---	---	---	---	Moderate	High	Low
NoD2:							
Holdrege-----	---	---	---	---	Moderate	Low	Low
Nuckolls-----	---	---	---	---	Moderate	High	Low
NpD:							
Meadin-----	---	---	---	---	Low	Low	Moderate
Nuckolls-----	---	---	---	---	Moderate	High	Low
Ra:							
Fluvaquents-----	---	---	---	---	Moderate	High	Low
RbG:							
Coly-----	---	---	---	---	Moderate	High	Low
RcF:							
Canyon-----	6-20	Bedrock (paralithic)	---	---	Low	High	Low
Rx:							
Roxbury-----	---	---	---	---	Moderate	Low	Low
Sa:							
Fluvaquents-----	---	---	---	---	Moderate	High	Low
Sc:							
Scott-----	---	---	---	---	High	High	Low
UaC:							
Uly-----	---	---	---	---	Moderate	High	Low
UaD:							
Uly-----	---	---	---	---	Moderate	High	Low
VaF:							
Valentine-----	---	---	---	---	Low	Low	Low
VhD:							
Valentine-----	---	---	---	---	Low	Low	Low
Hersh-----	---	---	---	---	Moderate	Low	Low
W:							
Water-----	---	---	---	---	---	---	---
Wa:							
Wann-----	---	---	---	---	High	Moderate	Low
Wb:							
Wann-----	---	---	---	---	High	Moderate	Low

WATER MANAGEMENT
Franklin County, Nebraska

The soils of the survey area are rated in the Water Management table according to limitations that affect their suitability for water management. Soils are rated for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways. Restrictive features that affect each soil for the specified use is also provided in the table.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Moderately limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Limited indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but generally require special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate to high maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Limitation class terms, such as very limited or limited, etc., limitation ratings, and numerical ratings are shown for each soil feature listed. As many as three soil features may be listed for each soil component if applicable. The overall limitation rating for the soil component is based on the most severe limitation.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects traffic ability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditch banks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a very limited hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, which conduct surface water to outlets at a non-erosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Br: Hobbs-----	Limitation: deep to water	Limitation: flooding	Limitation: erodes easily	Limitation: erodes easily
Bu: Butler-----	Limitation: frost action percs slowly	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly wetness
CaF: Campus-----	Limitation: deep to water	Limitation: slope thin layer	Limitation: area reclaim slope depth to rock	Limitation: area reclaim slope
CnF: Canyon-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope too arid depth to rock
Campus-----	Limitation: deep to water	Limitation: slope thin layer	Limitation: area reclaim slope depth to rock	Limitation: area reclaim slope
CoD2: Coly-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
Uly-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
CoF: Coly-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Uly-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
De: Detroit-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Fm: Fillmore-----	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
Gb: Gibbon-----	Limitation: frost action	Limitation: wetness	Limitation: wetness	Favorable
GcF: Ustorthents----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy	Limitation: rooting depth slope droughty
GP: Pits-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy	Limitation: rooting depth slope droughty
Ha: Hall-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Hb: Hall-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Hc: Hastings-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
HdC: Hersh-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Favorable
Valentine-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: rooting depth droughty
HdD: Hersh-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope
Valentine-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: rooting depth slope droughty
Hf: Hobbs-----	Limitation: deep to water	Limitation: flooding	Limitation: erodes easily	Limitation: erodes easily

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Hh: Holdrege-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
HhB: Holdrege-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
HhC: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
HhD: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
HnD2: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
Uly-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
Hr: Hord-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
HrB: Hord-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Ig: Inavale-----	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
In: Inavale-----	Limitation: deep to water	Limitation: soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
INT: Aquolls-----	---	---	---	---
Kn: Kenesaw-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
KnB: Kenesaw-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
KnC: Kenesaw-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
KsF: Kipson-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock
M-W: Miscellaneous Water-----	---	---	---	---
Ma: Fluvaquents----	Limitation: flooding ponding	Limitation: rooting depth ponding droughty	Limitation: ponding	Limitation: rooting depth wetness droughty
Mb: McCook-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily soil blowing	Limitation: erodes easily
Mc: McCook-----	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Mn: Munjor-----	Limitation: deep to water	Limitation: fast intake	Limitation: soil blowing	Favorable
Mu: Munjor-----	Limitation: deep to water	Limitation: soil blowing	Favorable	Favorable
NhF: Nuckolls-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Hobbs-----	Limitation: deep to water	Limitation: flooding	Limitation: erodes easily	Limitation: erodes easily
NmC: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
Nuckolls-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
NmD: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
Nuckolls-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
NoD2: Holdrege-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
Nuckolls-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
NpD: Meadin-----	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
Nuckolls-----	Limitation: deep to water	Limitation: droughty	Limitation: too sandy	Limitation: droughty
Ra: Fluvaquents----	Limitation: flooding ponding	Limitation: rooting depth ponding droughty	Limitation: erodes easily slope	Limitation: erodes easily slope
RbG: Coly-----	Limitation: deep to water	Limitation: erodes easily slope	Limitation: too sandy ponding	Limitation: rooting depth wetness droughty
RcF: Canyon-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope	Limitation: erodes easily slope
Rx: Roxbury-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope	Limitation: erodes easily slope
Sa: Fluvaquents----	Limitation: flooding ponding	Limitation: rooting depth ponding droughty	Limitation: too sandy ponding	Limitation: rooting depth wetness droughty
Sc: Scott-----	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
UaC: Uly-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
UaD: Uly-----	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
VaF: Valentine-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: rooting depth slope droughty
VhD: Valentine-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: rooting depth slope droughty
Hersh-----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope
W: Water-----	---	---	---	---
Wa: Wann-----	Limitation: frost action	Limitation: wetness soil blowing	Limitation: wetness soil blowing	Favorable
Wb: Wann-----	Limitation: frost action	Limitation: wetness	Limitation: wetness	Favorable

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
Bu: Butler-----	100	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Very limited Deep to water	1.00
CaF: Campus-----	100	Somewhat limited Depth to bedrock Seepage Slope	0.96 0.70 0.00	Somewhat limited Thin layer Piping	0.96 0.82	Very limited Deep to water	1.00
CnF: Canyon-----	75	Somewhat limited Depth to bedrock Slope Seepage	0.69 0.12 0.05	Very limited Thin layer Piping	1.00 1.00	Very limited Deep to water	1.00
Campus-----	25	Somewhat limited Depth to bedrock Seepage Slope	0.96 0.70 0.00	Somewhat limited Thin layer Piping	0.96 0.82	Very limited Deep to water	1.00
CoD2: Coly-----	60	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
Uly-----	40	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
CoF: Coly-----	60	Somewhat limited Seepage Slope	0.70 0.12	Very limited Piping	1.00	Very limited Deep to water	1.00
Uly-----	40	Somewhat limited Seepage Slope	0.70 0.12	Very limited Piping	1.00	Very limited Deep to water	1.00
De: Detroit-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
Fm: Fillmore-----	100	Somewhat limited Seepage	0.70	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.46	Very limited Deep to water	1.00
Gb: Gibbon-----	100	Somewhat limited Seepage	0.70	Very limited Piping Depth to saturated zone	1.00 0.95	Somewhat limited Slow refill Cutbanks cave Deep to water	0.30 0.10 0.02
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Very limited Seepage	1.00	Somewhat limited Piping	0.19	Very limited Deep to water	1.00
Hb: Hall-----	100	Very limited Seepage	1.00	Somewhat limited Piping	0.19	Very limited Deep to water	1.00
Hc: Hastings-----	100	Somewhat limited		Not limited		Very limited	

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		Seepage	0.70			Deep to water	1.00
HdC: Hersh-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited Deep to water	1.00
Valentine-----	40	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
HdD: Hersh-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited Deep to water	1.00
Valentine-----	40	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
Hf: Hobbs-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.79	Very limited Deep to water	1.00
Hh: Holdrege-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.61	Very limited Deep to water	1.00
HhB: Holdrege-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.61	Very limited Deep to water	1.00
HhC: Holdrege-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
HhD: Holdrege-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
HnD2: Holdrege-----	65	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.71	Very limited Deep to water	1.00
Uly-----	35	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
Hr: Hord-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
HrB: Hord-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.64	Very limited Deep to water	1.00
Ig: Inavale-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
In: Inavale-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
INT: Aquolls-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Cutbanks cave	0.10
Kn: Kenesaw-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
KnB: Kenesaw-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
KnC: Kenesaw-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
KsF: Kipson-----	100	Very limited Seepage	1.00	Very limited Thin layer	1.00	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Miscellaneous Water-	100	Depth to bedrock Slope Not rated	0.50 0.12	Piping Not rated	0.50	Not rated	
Ma: Fluvaquents-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.09	Somewhat limited Cutbanks cave	0.10
Mb: Mccook-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.09	Very limited Deep to water	1.00
Mc: Mccook-----	100	Somewhat limited Seepage	0.70	Very limited Piping Seepage	1.00 0.05	Very limited Deep to water	1.00
Mn: Munjor-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
Mu: Munjor-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
NhF: Nuckolls-----	70	Somewhat limited Seepage Slope	0.70 0.12	Somewhat limited Piping	0.61	Very limited Deep to water	1.00
Hobbs-----	30	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.79	Very limited Deep to water	1.00
NmC: Holdrege-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
Nuckolls-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.61	Very limited Deep to water	1.00
NmD: Holdrege-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.66	Very limited Deep to water	1.00
Nuckolls-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.64	Very limited Deep to water	1.00
NoD2: Holdrege-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.73	Very limited Deep to water	1.00
Nuckolls-----	50	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.69	Very limited Deep to water	1.00
NpD: Meadin-----	50	Very limited Seepage Slope	1.00 0.12	Somewhat limited Seepage	0.91	Very limited Deep to water	1.00
Nuckolls-----	50	Somewhat limited Seepage Slope	0.70 0.12	Somewhat limited Piping	0.61	Very limited Deep to water	1.00
Ra: Fluvaquents-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.88	Somewhat limited Cutbanks cave	0.10
RbG: Coly-----	100	Somewhat limited Slope	0.88	Very limited Piping	1.00	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RcF: Canyon-----	100	Seepage	0.70				
		Somewhat limited Depth to bedrock	0.69	Very limited Thin layer	1.00	Very limited Deep to water	1.00
		Slope	0.21	Piping	1.00		
		Seepage	0.05				
Rx: Roxbury-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.54	Very limited Deep to water	1.00
Sa: Fluvaquents-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Cutbanks cave	0.10
				Seepage	0.88		
Sc: Scott-----	100	Somewhat limited Seepage	0.70	Very limited Ponding	1.00	Very limited Deep to water	1.00
				Depth to saturated zone	1.00		
UaC: Uly-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
UaD: Uly-----	100	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Very limited Deep to water	1.00
VaF: Valentine-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
		Slope	0.82				
VhD: Valentine-----	65	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
		Slope	0.15				
Hersh-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.70	Very limited Deep to water	1.00
		Slope	0.15				
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Wann-----	100	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.84	Very limited Cutbanks cave	1.00
				Seepage	0.10	Deep to water	0.07
				Piping	0.02		
Wb: Wann-----	100	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone	0.84	Very limited Cutbanks cave	1.00
				Seepage	0.10	Deep to water	0.07
				Piping	0.02		

SANITARY FACILITIES
Franklin County, Nebraska

Sanitary Facilities

The following tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A trench sanitary landfill is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

SANITARY FACILITIES
Franklin County, Nebraska

In an area sanitary landfill, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding Restricted permeability	1.00 0.50	Very limited Flooding Seepage	1.00 0.50
Bu: Butler-----	100	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Somewhat limited Seepage	0.50
CaF: Campus-----	100	Very limited Depth to bedrock Slope Restricted permeability	1.00 0.63 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50
CnF: Canyon-----	75	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.50
Campus-----	25	Very limited Depth to bedrock Slope Restricted permeability	1.00 0.63 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50
CoD2: Coly-----	60	Somewhat limited Restricted permeability Slope	0.50 0.00	Very limited Slope Seepage	1.00 0.50
Uly-----	40	Somewhat limited Restricted permeability Slope	0.50 0.00	Very limited Slope Seepage	1.00 0.50
CoF: Coly-----	60	Very limited Slope Restricted permeability	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Uly-----	40	Very limited Slope Restricted permeability	1.00 0.50	Very limited Slope Seepage	1.00 0.50
De: Detroit-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
Fm: Fillmore-----	100	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Seepage	1.00 0.50
Gb: Gibbon-----	100	Very limited Depth to saturated zone Restricted permeability	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50
GcF: Ustorthents-----	100	Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated	
Ha: Hall-----	100	Somewhat limited Restricted permeability	0.50	Very limited Seepage	1.00
Hb: Hall-----	100	Somewhat limited Restricted permeability	0.50	Very limited Seepage	1.00

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Hc: Hastings-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
HdC: Hersh-----	60	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
Valentine-----	40	Very limited Filtering capacity	1.00	Slope	0.33
				Very limited Seepage	1.00
HdD: Hersh-----	60	Very limited Filtering capacity	1.00	Slope	0.33
				Very limited Seepage	1.00
Valentine-----	40	Very limited Filtering capacity	1.00	Slope	1.00
				Very limited Seepage	1.00
Hf: Hobbs-----	100	Very limited Flooding Restricted permeability	1.00 0.50	Very limited Flooding Seepage	1.00 0.50
Hh: Holdrege-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
HhB: Holdrege-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
HhC: Holdrege-----	100	Somewhat limited Restricted permeability	0.50	Slope	0.00
				Somewhat limited Slope	0.67
HhD: Holdrege-----	100	Somewhat limited Restricted permeability	0.50	Seepage	0.50
				Very limited Slope	1.00
HnD2: Holdrege-----	65	Very limited Restricted permeability	1.00	Seepage	0.50
				Somewhat limited Slope	0.91
Uly-----	35	Somewhat limited Restricted permeability	0.50	Seepage	0.50
				Somewhat limited Slope	0.91
Hr: Hord-----	100	Somewhat limited Restricted permeability	0.50	Seepage	0.50
HrB: Hord-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.00
Ig: Inavale-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
In: Inavale-----	100	Very limited Filtering capacity	1.00	Flooding	0.40
				Slope	0.00
INT: Aquolls-----	100	Very limited Depth to saturated zone	1.00	Flooding	0.40
				Slope	0.00
				Very limited Depth to saturated zone	1.00

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Kn:		Ponding	1.00	Ponding	1.00
Kenesaw-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
KnB:		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Kenesaw-----	100			Slope	0.00
KnC:		Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
Kenesaw-----	100			Seepage	0.50
KsF:		Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
Kipson-----	100	Slope	1.00	Slope	1.00
				Seepage	0.50
M-W:		Not rated		Not rated	
Miscellaneous Water-	100				
Ma:		Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Fluvaquents-----	100				
Mb:		Somewhat limited Restricted permeability Flooding	0.50 0.40	Somewhat limited Seepage Flooding	0.50 0.40
Mccook-----	100				
Mc:		Somewhat limited Restricted permeability Flooding	0.50 0.40	Somewhat limited Seepage Flooding	0.50 0.40
Mccook-----	100				
Mn:		Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
Munjor-----	100				
Mu:		Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
Munjor-----	100				
NhF:		Very limited Slope Restricted permeability	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Nuckolls-----	70				
Hobbs-----	30	Very limited Flooding Restricted permeability	1.00 0.50	Very limited Flooding Seepage	1.00 0.50
NmC:		Very limited Restricted permeability	1.00	Somewhat limited Slope	0.67
Holdrege-----	50			Seepage	0.50
Nuckolls-----	50	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
				Seepage	0.50
NmD:		Very limited Restricted permeability Slope	1.00 0.00	Very limited Slope	1.00
Holdrege-----	50			Seepage	0.50
Nuckolls-----	50	Somewhat limited Restricted permeability Slope	0.50 0.00	Very limited Slope	1.00
				Seepage	0.50
NoD2:		Very limited Restricted permeability	1.00	Somewhat limited Slope	0.91
Holdrege-----	50				

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Nuckolls-----	50	Somewhat limited Restricted permeability	0.50	Seepage Somewhat limited Slope	0.50 0.91
NpD: Meadin-----	50	Very limited Filtering capacity Slope	1.00 1.00	Seepage	0.50
Nuckolls-----	50	Very limited Slope Restricted permeability	1.00 0.50	Very limited Slope Seepage	1.00 1.00 0.50
Ra: Fluvaquents-----	100	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
RbG: Coly-----	100	Very limited Slope Restricted permeability	1.00 0.50	Very limited Slope Seepage	1.00 0.50
RcF: Canyon-----	100	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.50
Rx: Roxbury-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Sa: Fluvaquents-----	100	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
Sc: Scott-----	100	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Seepage	1.00 0.50
UaC: Uly-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope Seepage	0.67 0.50
UaD: Uly-----	100	Somewhat limited Restricted permeability Slope	0.50 0.04	Very limited Slope Seepage	1.00 0.50
VaF: Valentine-----	100	Very limited Slope Filtering capacity	1.00 1.00	Very limited Slope Seepage	1.00 1.00
VhD: Valentine-----	65	Very limited Slope Filtering capacity	1.00 1.00	Very limited Slope Seepage	1.00 1.00
Herh-----	35	Very limited Slope Filtering capacity	1.00 1.00	Very limited Slope Seepage	1.00 1.00
W: Water-----	100	Not rated		Not rated	
Wa: Wann-----	100	Very limited		Very limited	

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Wb: Wann-----	100	Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Very limited Depth to saturated zone	1.00	Very limited Seepage	1.00
				Depth to saturated zone	1.00

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Hard to compact	1.00
Bu: Butler-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
CaF: Campus-----	100	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63
CnF: Canyon-----	75	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
	25	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63
CoD2: Coly-----	60	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
	40	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
CoF: Coly-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
De: Detroit-----	100	Not limited		Not limited		Not limited	
Fm: Fillmore-----	100	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Too clayey	1.00
						Hard to compact Depth to saturated zone	1.00 1.00
Gb: Gibbon-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.68
GcF: Ustorthents-----	100	Not rated		Not rated		Not rated	
GP: Pits-----	100	Not rated		Not rated		Not rated	
Ha: Hall-----	100	Very limited Seepage Too clayey	1.00 0.50	Very limited Seepage	1.00	Somewhat limited Too clayey	0.50
Hb: Hall-----	100	Very limited Seepage Too clayey	1.00 0.50	Very limited Seepage	1.00	Somewhat limited Too clayey	0.50
Hc: Hastings-----	100	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact Too clayey	1.00 0.50
HdC: Hersh-----	60	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.50
	40	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage	1.00 1.00
HdD: Hersh-----	60	Very limited Seepage Slope	1.00 0.04	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage Slope	0.50 0.04
	40	Very limited Seepage Too Sandy Slope	1.00 1.00 0.04	Very limited Seepage Slope	1.00 0.04	Very limited Too Sandy Seepage Slope	1.00 1.00 0.04

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Hf: Hobbs-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
Hh: Holdrege-----	100	Not limited		Not limited		Not limited	
HhB: Holdrege-----	100	Not limited		Not limited		Not limited	
HhC: Holdrege-----	100	Not limited		Not limited		Not limited	
HhD: Holdrege-----	100	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
HnD2: Holdrege-----	65	Not limited		Not limited		Not limited	
Uly-----	35	Not limited		Not limited		Not limited	
Hr: Hord-----	100	Not limited		Not limited		Not limited	
HrB: Hord-----	100	Not limited		Not limited		Not limited	
Ig: Inavale-----	100	Very limited Seepage Too Sandy Flooding	1.00 1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Too Sandy Seepage	1.00 1.00
In: Inavale-----	100	Very limited Seepage Too Sandy Flooding	1.00 1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Too Sandy Seepage	1.00 1.00
INT: Aguolls-----	100	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Kn: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnB: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnC: Kenesaw-----	100	Not limited		Not limited		Not limited	
KsF: Kipson-----	100	Very limited Depth to bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Carbonate content	1.00 1.00 1.00
M-W: Miscellaneous Water-	100	Not rated		Not rated		Not rated	
Ma: Fluvaquents-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone Seepage	1.00
		Depth to saturated zone Seepage	1.00 1.00	Depth to saturated zone Seepage	1.00		1.00
Mb: Mccook-----	100	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
Mc: Mccook-----	100	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
Mn: Munjor-----	100	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Somewhat limited Seepage	0.50
Mu: Munjor-----	100	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Somewhat limited Seepage	0.50
NhF: Nuckolls-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hobbs-----	30	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
NmC: Holdrege-----	50	Not limited		Not limited		Not limited	
NmC: Nuckolls-----	50	Not limited		Not limited		Not limited	
NmD: Holdrege-----	50	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00
Nuckolls-----	50	Somewhat limited		Somewhat limited		Somewhat limited	

SANITARY FACILITIES--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NoD2:		Slope	0.00	Slope	0.00	Slope	0.00
Holdrege-----	50	Not limited		Not limited		Not limited	
Nuckolls-----	50	Not limited		Not limited		Not limited	
NpD:							
Meadin-----	50	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage	1.00
		Too Sandy	1.00	Slope	1.00	Slope	1.00
		Slope	1.00			Gravel content	0.85
Nuckolls-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Ra:							
Fluvaquents-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone Seepage	1.00
		Depth to saturated zone Seepage	1.00	Depth to saturated zone Seepage	1.00		
RbG:							
Coly-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
RcF:							
Canyon-----	100	Very limited Depth to bedrock Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00
			1.00				1.00
Rx:							
Roxbury-----	100	Not limited		Not limited		Not limited	
Sa:							
Fluvaquents-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone Seepage	1.00
		Depth to saturated zone Seepage	1.00	Depth to saturated zone Seepage	1.00		1.00
Sc:							
Scott-----	100	Very limited Depth to saturated zone Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
			1.00	Depth to saturated zone	1.00	Depth to saturated zone Too clayey	1.00
UaC:							
Uly-----	100	Not limited		Not limited		Not limited	
UaD:							
Uly-----	100	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04
VaF:							
Valentine-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage	1.00
		Too Sandy	1.00	Slope	1.00	Slope	1.00
		Slope	1.00				
VhD:							
Valentine-----	65	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage	1.00
		Too Sandy	1.00	Slope	1.00	Slope	1.00
		Slope	1.00				
Hersh-----	35	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Slope	1.00
		Slope	1.00	Slope	1.00	Seepage	0.50
W:							
Water-----	100	Not rated		Not rated		Not rated	
Wa:							
Wann-----	100	Very limited Depth to saturated zone Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00	Somewhat limited Seepage	0.50
			1.00			Depth to saturated zone	0.44
Wb:							
Wann-----	100	Very limited Depth to saturated zone Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00	Somewhat limited Seepage	0.50
			1.00			Depth to saturated zone	0.44

AGRICULTURAL WASTE MANAGEMENT
Franklin County, Nebraska

The nature of the soil is also important in the application of organic wastes and wastewater to land as fertilizers and irrigation; it is also important when the soil is used as a medium for treatment and disposal of these wastes. Favorable soil properties are required to prevent environmental damage.

The use of organic wastes and wastewater as production resources will result in energy conservation, prevent the waste of these important resources, and prevent problems associated with their disposal. Where disposal is the goal, and a maximum amount is disposed in a minimum area to hold costs to a minimum, risk of environmental damage is the principal constraint. Where the reuse goal is pursued, and a minimum amount is applied to a maximum area to obtain the greatest benefit, environmental damage is unlikely.

Interpretations developed for waste management may include ratings for (1) manure and food processing wastes; (2) municipal sewage sludge; (3) irrigation use of wastewater; or (4) treatment of wastewater by the slow rate process, overland flow process, or rapid infiltration process. If available, these should be located in this subsection.

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The Ag-Waste tables show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, phosphorus, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are generally favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

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The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding.

The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

See the National Soil Handbook, September 1992, Part 620, for criteria used in rating soils for sanitary facilities and waste management.

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(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Br: Hobbs-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Bu: Butler-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Runoff limitation	0.40	Too acid	0.03	Too acid	0.03
		Too acid	0.01				
CaF: Campus-----	100	Somewhat limited Depth to bedrock	0.84	Somewhat limited Depth to bedrock	0.84	Very limited Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	0.84
		Droughty	0.22	Droughty	0.22	Too steep for sprinkler application	0.77
						Droughty	0.22
CnF: Canyon-----	75	Very limited Depth to bedrock	1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40			Too steep for sprinkler application	1.00
Campus-----	25	Somewhat limited Depth to bedrock	0.84	Somewhat limited Depth to bedrock	0.84	Very limited Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	0.84
		Droughty	0.22	Droughty	0.22	Too steep for sprinkler application	0.77
						Droughty	0.22
CoD2: Coly-----	60	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.10
Uly-----	40	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.10
CoF: Coly-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	1.00
Uly-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	1.00
De: Detroit-----	100	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
Fm: Fillmore-----	100	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00

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(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Gb: Gibbon-----	100	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Runoff limitation	0.40	Too acid	0.03	Too acid	0.03
GcF: Ustorthents-----	100	Too acid	0.01				
		Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to	0.95	Depth to	0.95	Depth to	0.95
		saturated zone		saturated zone		saturated zone	
GP: Pits-----	100	Restricted	0.30	Restricted	0.22	Restricted	0.22
		permeability		permeability		permeability	
		Not rated		Not rated		Not rated	
Ha: Hall-----	100	Not rated		Not rated		Not rated	
Hb: Hall-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.00	Too acid	0.01	Too acid	0.01
Hc: Hastings-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.00	Too acid	0.01	Too acid	0.01
HdC: Hersh-----	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted	0.30	Restricted	0.22	Restricted	0.22
		permeability		permeability		permeability	
Valentine-----	40	Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Too steep for		Too steep for		Too steep for	
HdD: Hersh-----	60	surface		surface		surface	
		application		application		application	
Valentine-----	40	Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Too steep for		Too steep for		Too steep for	
Hf: Hobbs-----	100	Leaching	0.45	Droughty	0.11	Droughty	0.11
		limitation					
		Droughty	0.11				
Hh: Holdrege-----	100	Too steep for		Too steep for		Too steep for	
		surface		surface		surface	
		application		application		application	
HhB: Holdrege-----	100	Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Too steep for		Too steep for		Too steep for	
		sprinkler		sprinkler		sprinkler	
Hf: Hobbs-----	100	application		application		application	
Hh: Holdrege-----	100	Droughty	0.04	Droughty	0.11	Droughty	0.11
HhB: Holdrege-----	100	Slope	0.04	Slope	0.04	Slope	0.04
Hf: Hobbs-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Flooding	0.60	Flooding	1.00	Flooding	0.60
Hh: Holdrege-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted	0.30	Restricted	0.22	Restricted	0.22
		permeability		permeability		permeability	
HhB: Holdrege-----	100	Somewhat limited		Somewhat limited		Somewhat limited	

AGRICULTURAL WASTE MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HhC: Holdrege-----	100	Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Too steep for surface application Restricted permeability	0.31 0.22
HhD: Holdrege-----	100	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Very limited Too steep for surface application	1.00
		Slope	0.00	Slope	0.00	Restricted permeability Too steep for sprinkler application	0.22 0.10
HnD2: Holdrege-----	65	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Too steep for surface application Restricted permeability Too steep for sprinkler application	0.66 0.22 0.00
Uly-----	35	Not limited		Not limited		Somewhat limited Too steep for surface application Too steep for sprinkler application	0.66 0.00
Hr: Hord-----	100	Not limited		Not limited		Not limited	
HrB: Hord-----	100	Not limited		Not limited		Not limited	
Ig: Inavale-----	100	Very limited Filtering capacity Leaching limitation Droughty	1.00 0.45 0.12	Very limited Filtering capacity Flooding Droughty	1.00 0.40 0.12	Very limited Filtering capacity Droughty	1.00 0.12
In: Inavale-----	100	Very limited Filtering capacity Leaching limitation Droughty	1.00 0.45 0.01	Very limited Filtering capacity Flooding Droughty	1.00 0.40 0.01	Very limited Filtering capacity Droughty	1.00 0.01
INT: Aquolls-----	100	Very limited Depth to saturated zone Low adsorption Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Low adsorption Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Low adsorption Ponding	1.00 1.00 1.00
Kn: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnB: Kenesaw-----	100	Not limited		Not limited		Not limited	
KnC: Kenesaw-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
KsF: Kipson-----	100	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00
		Droughty	0.85	Droughty	0.85		

AGRICULTURAL WASTE MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Miscellaneous Water-	100	Runoff limitation Not rated	0.40	Not rated		Droughty Not rated	0.85
Ma: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding Filtering capacity Runoff limitation	1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Filtering capacity	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Filtering capacity	1.00 1.00 1.00
Mb: Mccook-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Flooding Filtering capacity	0.40 0.00	Somewhat limited Filtering capacity	0.00
Mc: Mccook-----	100	Not limited		Somewhat limited Flooding	0.40	Not limited	
Mn: Munjor-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Filtering capacity	1.00
Mu: Munjor-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Filtering capacity	1.00
NhF: Nuckolls-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00
Hobbs-----	30	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
NmC: Holdrege-----	50	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Too steep for surface application Restricted permeability	0.31 0.22
Nuckolls-----	50	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
NmD: Holdrege-----	50	Somewhat limited Restricted permeability Slope	0.30 0.00	Somewhat limited Restricted permeability Slope	0.22 0.00	Very limited Too steep for surface application Restricted permeability Too steep for sprinkler application	1.00 0.22 0.10
Nuckolls-----	50	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 0.10
NoD2: Holdrege-----	50	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Too steep for surface application Restricted permeability	0.66 0.22

AGRICULTURAL WASTE MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Nuckolls-----	50	Not limited		Not limited		Too steep for sprinkler application Somewhat limited Too steep for surface application Too steep for sprinkler application	0.00 0.66 0.00
NpD: Meadin-----	50	Very limited Filtering capacity Slope	1.00 1.00	Very limited Filtering capacity Slope	1.00 1.00	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 1.00 1.00 0.69
Nuckolls-----	50	Droughty	0.69	Droughty	0.69	Too steep for sprinkler application Droughty	1.00
		Leaching limitation	0.45				0.69
Nuckolls-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00
Ra: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Droughty Filtering capacity Runoff limitation	1.00 1.00 0.40	Depth to saturated zone Flooding Filtering capacity	1.00 1.00 1.00	Depth to saturated zone Flooding Filtering capacity Low adsorption	1.00 1.00 1.00 0.34
RbG: Coly-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00
RcF: Canyon-----	100	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 1.00
		Runoff limitation	0.40				
Rx: Roxbury-----	100	Not limited		Not limited		Not limited	
Sa: Fluvaquents-----	100	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Droughty Filtering capacity Runoff limitation	1.00 1.00 0.40	Depth to saturated zone Flooding Filtering capacity	1.00 1.00 1.00	Depth to saturated zone Flooding Filtering capacity Low adsorption	1.00 1.00 1.00 0.34
Sc: Scott-----	100	Very limited Restricted permeability Ponding Depth to saturated zone Runoff limitation Too acid	1.00 1.00 1.00 0.40 0.02	Very limited Restricted permeability Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 0.07	Very limited Restricted permeability Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 0.07

AGRICULTURAL WASTE MANAGEMENT--Continued
Franklin County, Nebraska

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UaC: Uly-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
UaD: Uly-----	100	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.22
VaF: Valentine-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for sprinkler application	1.00
		Leaching limitation Droughty	0.45 0.11	Droughty	0.11	Filtering capacity Droughty	1.00 0.11
VhD: Valentine-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for sprinkler application	1.00
		Droughty	0.74	Droughty	0.74	Filtering capacity Droughty	1.00 0.74
		Leaching limitation	0.45				
Herh-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for sprinkler application	1.00
						Filtering capacity	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Wann-----	100	Somewhat limited Depth to saturated zone	0.84	Somewhat limited Depth to saturated zone	0.84	Somewhat limited Depth to saturated zone	0.84
		Sodium content	0.08	Sodium content	0.08	Sodium content	0.08
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
Wb: Wann-----	100	Somewhat limited Depth to saturated zone	0.84	Somewhat limited Depth to saturated zone	0.84	Somewhat limited Depth to saturated zone	0.84
		Sodium content	0.08	Sodium content	0.08	Sodium content	0.08
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
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All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Br: BROKEN ALLUVIAL LAND	HOBBS	No	drainageway, flood plain swale	---	---	---	---
	WT AT 0-1 FOOT	Yes		2B3	YES	NO	NO
Bu: BUTLER SILT LOAM, 0 TO 1 PERCENT SLOPES	BUTLER	No	swale	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
CaF: CAMPUS COMPLEX, 9 TO 30 PERCENT SLOPES	CAMPUS	No	hillslope	---	---	---	---
CnF: CANYON-CAMPUS LOAMS, 9 TO 30 PERCENT SLOPES	CANYON	No	hillslope	---	---	---	---
	CAMPUS	No	hillslope	---	---	---	---
Cod2: COLY-ULY SILT LOAMS, 3 TO 9 PERCENT SLOPES, ERODED	COLY	No	hillslope	---	---	---	---
	ULY	No	hillslope	---	---	---	---
CoF: COLY-ULY SILT LOAMS, 9 TO 30 PERCENT SLOPES	COLY	No	hillslope	---	---	---	---
	ULY	No	hillslope	---	---	---	---
De: DETROIT SILT LOAM, 0 TO 1 PERCENT SLOPES	DETROIT	No	flat	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
Fm: FILLMORE SILT LOAM, 0 TO 1 PERCENT SLOPES	FILLMORE	Yes	playa	2A	YES	NO	NO
	SCOTT	Yes	playa	2B3,3	YES	NO	YES
Gb: GIBBON SILT LOAM, 0 TO 2 PERCENT SLOPES	GIBBON	No	stream terrace	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO
GcF: GRAVELLY LAND COMPLEX, 3 TO 30 PERCENT SLOPES	USTORTHENTS	No	hillslope	---	---	---	---
GP: GRAVEL PIT	PITS	Unranked	---	---	---	---	---
Ha: HALL SILT LOAM, 0 TO 1 PERCENT SLOPES	HALL	No	interfluve	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
Hb: HALL SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	HALL	No	stream terrace	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
Hc: HASTINGS SILT LOAM, 0 TO 1 PERCENT SLOPES	HASTINGS	No	hillslope	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
HdC: HERSH-VALENTINE COMPLEX, 1 TO 6 PERCENT SLOPES	HERSH	No	hillslope	---	---	---	---
	VALENTINE	No	hummock, sand sheet	---	---	---	---
HdD: HERSH-VALENTINE COMPLEX, 6 TO 11 PERCENT SLOPES	HERSH	No	hillslope	---	---	---	---
	VALENTINE	No	hummock, sand sheet	---	---	---	---
Hf: HOBBS SILT LOAM, OCCASIONALLY FLOODED, 0 TO 2 PERCENT SLOPES	HOBBS	No	drainageway, flood plain	---	---	---	---
Hh: HOLDREGE SILT LOAM, 0 TO 1 PERCENT SLOPES	HOLDREGE	No	broad interstream divide	---	---	---	---
	FILLMORE	Yes	playa	2A	YES	NO	NO
HhB: HOLDREGE SILT LOAM, 1 TO 3 PERCENT SLOPES	HOLDREGE	No	hillslope	---	---	---	---
HhC: HOLDREGE SILT LOAM, 3 TO 6 PERCENT SLOPES	HOLDREGE	No	hillslope	---	---	---	---

HYDRIC SOIL INTERPRETATIONS
HYDRIC SOILS LIST
Franklin County, Nebraska

PAGE 3 of 4

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
HhD: HOLDREGE SILT LOAM, 6 TO 9 PERCENT SLOPES	HOLDREGE	No	hillslope	---	---	---	---
HnD2: HOLDREGE AND ULY SOILS, 3 TO 9 PERCENT SLOPES, ERODED	HOLDREGE	No	hillslope	---	---	---	---
	ULY	No	hillslope	---	---	---	---
Hr: HORD SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	HORD	No	stream terrace	---	---	---	---
HrB: HORD SILT LOAM, TERRACE, 1 TO 3 PERCENT SLOPES	HORD	No	stream terrace	---	---	---	---
Ig: INAVALE LOAMY SAND, 0 TO 3 PERCENT SLOPES	INAVALE	No	flood plain	---	---	---	---
In: INAVALE FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	INAVALE	No	flood plain	---	---	---	---
INT: AQUOLLS	AQUOLLS	Yes	depression	2B3,3	YES	NO	YES
Kn: KENESAW SILT LOAM, 0 TO 1 PERCENT SLOPES	KENESAW	No	interfluve	---	---	---	---
KnB: KENESAW SILT LOAM, 1 TO 3 PERCENT SLOPES	KENESAW	No	hillslope	---	---	---	---
KnC: KENESAW SILT LOAM, 3 TO 6 PERCENT SLOPES	KENESAW	No	hillslope	---	---	---	---
KsF: KIPSON COMPLEX, 9 TO 30 PERCENT SLOPES	KIPSON	No	hillslope	---	---	---	---
M-W: MISCELLANEOUS WATER, SEWAGE LAGOON	MISCELLANEOUS WATER	---	---	---	---	---	---
Ma: MARSH	FLUVAQUENTS	Yes	flood plain	2B2,3	YES	NO	YES
Mb: MCCOOK FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	MCCOOK	No	flood plain	---	---	---	---
Mc: MCCOOK SILT LOAM, 0 TO 2 PERCENT SLOPES	MCCOOK	No	flood plain	---	---	---	---
Mn: MUNJOR LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES	MUNJOR	No	flood plain	---	---	---	---
Mu: MUNJOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	MUNJOR	No	flood plain	---	---	---	---
NhF: NUCKOLLS-HOBBS COMPLEX, 9 TO 30 PERCENT SLOPES	NUCKOLLS	No	hillslope	---	---	---	---
	HOBBS	No	drainageway, flood plain	---	---	---	---
NmC: NUCKOLLS AND HOLDREGE SILT LOAMS, 3 TO 6 PERCENT SLOPES	HOLDREGE	No	hillslope	---	---	---	---
	NUCKOLLS	No	hillslope	---	---	---	---
NmD: NUCKOLLS AND HOLDREGE SILT LOAMS, 6 TO 9 PERCENT SLOPES	HOLDREGE	No	hillslope	---	---	---	---
	NUCKOLLS	No	hillslope	---	---	---	---
NoD2: NUCKOLLS AND HOLDREGE SOILS, 3 TO 9 PERCENT SLOPES, ERODED	HOLDREGE	No	hillslope	---	---	---	---
	NUCKOLLS	No	hillslope	---	---	---	---
NpD: NUCKOLLS AND MEADIN SOILS, 9 TO 30 PERCENT SLOPES	MEADIN	No	hillslope	---	---	---	---
	NUCKOLLS	No	hillslope	---	---	---	---

All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Ra: RIVERWASH	FLUVAQUENTS WT AT 0-1 FOOT	Yes Yes	flood plain swale	2B3,3 2B3	YES YES	NO NO	YES NO
RbG: ROUGH BROKEN LAND, LOESS, 20 TO 60 PERCENT SLOPES	COLY	No	break	---	---	---	---
RcF: ROUGH STONY LAND, 15 TO 30 PERCENT SLOPES	CANYON	No	hillslope	---	---	---	---
Rx: ROXBURY SILT LOAM, 0 TO 2 PERCENT SLOPES	ROXBURY	No	flood plain	---	---	---	---
Sa: SANDY ALLUVIAL LAND	FLUVAQUENTS	Yes	flood plain	2B3,3	YES	NO	YES
Sc: SCOTT SILT LOAM, 0 TO 1 PERCENT SLOPES	SCOTT	Yes	playa	2B3,3	YES	NO	YES
UaC: ULY SILT LOAM, 3 TO 6 PERCENT SLOPES	ULY	No	hillslope	---	---	---	---
UaD: ULY SILT LOAM, 6 TO 11 PERCENT SLOPES	ULY	No	hillslope	---	---	---	---
VaF: VALENTINE LOAMY SAND, HILLY	VALENTINE	No	hillslope, sand sheet	---	---	---	---
VhD: VALENTINE-HERSH COMPLEX, 11 TO 30 PERCENT SLOPES	VALENTINE	No	hummock, sand sheet	---	---	---	---
	HERSH	No	hillslope	---	---	---	---
W: WATER	WATER	Unranked	---	---	---	---	---
Wa: WANN FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	WANN	No	stream terrace	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO
Wb: WANN SILT LOAM, 0 TO 2 PERCENT SLOPES	WANN	No	stream terrace	---	---	---	---
	WT AT 0-1 FOOT	Yes	swale	2B3	YES	NO	NO

FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II.
Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in),
or for other soils
 - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
 - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

HIGHLY ERODIBLE LANDS REPORT

Survey Area- FRANKLIN COUNTY, NEBRASKA

Map Symbol	Soil Mapunit Name	HEL Classifications		
		C=40	R=125	wnd wat mu
Br	BROKEN ALLUVIAL LAND	3	2	2
Bu	BUTLER SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
CaF	CAMPUS COMPLEX, 9 TO 30 PERCENT SLOPES	1	1	1
CnF	CANYON-CAMPUS LOAMS, 9 TO 30 PERCENT SLOPES	1	1	1
CoD2	COLY-ULY SILT LOAMS, 3 TO 9 PERCENT SLOPES, ERODED	3	2	2
CoF	COLY-ULY SILT LOAMS, 9 TO 30 PERCENT SLOPES	3	1	1
De	DETROIT SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Fm	FILLMORE SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Gb	GIBBON SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
GcF	GRAVELLY LAND COMPLEX, 3 TO 30 PERCENT SLOPES	3	2	2
Ha	HALL SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
Hb	HALL SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	3	3	3
Hc	HASTINGS SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
HdC	HERSH-VALENTINE COMPLEX, 1 TO 6 PERCENT SLOPES	2	3	2
HdD	HERSH-VALENTINE COMPLEX, 6 TO 11 PERCENT SLOPES	2	2	2
Hf	HOBBS SILT LOAM, OCCASIONALLY FLOODED, 0 TO 2 PERCENT SLOPES	3	3	3
Hh	HOLDREGE SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
HhB	HOLDREGE SILT LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
HhC	HOLDREGE SILT LOAM, 3 TO 6 PERCENT SLOPES	3	2	2
HhD	HOLDREGE SILT LOAM, 6 TO 9 PERCENT SLOPES	3	2	2
HnD2	HOLDREGE AND ULY SOILS, 3 TO 9 PERCENT SLOPES, ERODED	3	2	2
Hr	HORD SILT LOAM, TERRACE, 0 TO 1 PERCENT SLOPES	3	3	3
HrB	HORD SILT LOAM, TERRACE, 1 TO 3 PERCENT SLOPES	3	3	3
Ig	INAVALE LOAMY SAND, 0 TO 3 PERCENT SLOPES	1	3	1
In	INAVALE FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES	3	3	3
Kn	KENESAW SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
KnB	KENESAW SILT LOAM, 1 TO 3 PERCENT SLOPES	3	3	3
KnC	KENESAW SILT LOAM, 3 TO 6 PERCENT SLOPES	3	2	2
KsF	KIPSON COMPLEX, 9 TO 30 PERCENT SLOPES	1	1	1
Ma	MARSH	3	3	3
Mb	MCCOOK FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
Mc	MCCOOK SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
Mn	MUNJOR LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES	1	3	1
Mu	MUNJOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
NhF	NUCKOLLS-HOBBS COMPLEX, 9 TO 30 PERCENT SLOPES	3	1	1
NmC	NUCKOLLS AND HOLDREGE SILT LOAMS, 3 TO 6 PERCENT SLOPES	3	2	2
NmD	NUCKOLLS AND HOLDREGE SILT LOAMS, 6 TO 9 PERCENT SLOPES	3	2	2
NoD2	NUCKOLLS AND HOLDREGE SOILS, 3 TO 9 PERCENT SLOPES, ERODED	3	2	2
NpD	NUCKOLLS AND MEADIN SOILS, 9 TO 30 PERCENT SLOPES	3	1	1
Ra	RIVERWASH		2	2
RbG	ROUGH BROKEN LAND, LOESS, 20 TO 60 PERCENT SLOPES	3	1	1
RcF	ROUGH STONY LAND, 15 TO 30 PERCENT SLOPES	3	1	1
Rx	ROXBURY SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
Sa	SANDY ALLUVIAL LAND	1	3	1
Sc	SCOTT SILT LOAM, 0 TO 1 PERCENT SLOPES	3	3	3
UaC	ULY SILT LOAM, 3 TO 6 PERCENT SLOPES	3	2	2
UaD	ULY SILT LOAM, 6 TO 11 PERCENT SLOPES	3	2	2
VaF	VALENTINE LOAMY SAND, HILLY	1	1	1
VhD	VALENTINE-HERSH COMPLEX, 11 TO 30 PERCENT SLOPES	1	2	1
Wa	WANN FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	3	3	3
Wb	WANN SILT LOAM, 0 TO 2 PERCENT SLOPES	3	3	3